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TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1932

No. 412

LOS ANGELES GAS AND ELECTRIC CORPORATION, APPELLANT,

vs.

RAILROAD COMMISSION OF THE STATE OF CALIFORNIA, C. L. SEAVEY, LEON O. WHITSELL, ET AL., ETC.

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF CALIFORNIA

FILED SEPTEMBER 27, 1932

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[fol. 7]

IN UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF CALIFORNIA, CENTRAL DIVISION

In Equity. No. S-105-J

Los Angeles Gas and Electric Corporation, a Corporation, Plaintiff,

vs.

Railroad Commission of the State of California, and C. L. Seavey, Leon O. Whitsell, Thomas S. Louttit, W. J. Carr, and Ezra W. Decoto, as Members of and Constituting said Railroad Commission of the State of California, Defendants

Bill of Complaint

To the Honorable the Judges of the District Court of the United States in and for the Southern District of California, Central Division:

Now comes Los Angeles Gas and Electric Corporation, plaintiff herein, and alleges as follows:

I

Plaintiff is now, and at all times herein mentioned since June 22, 1909, was, a corporation duly organized and existing under and by virtue of the laws of the State of California, with its offices and its principal place of business [fol. 8] in the City of Los Angeles, and is a citizen and resident of the State of California. Plaintiff is now, and ever since August 1, 1909, has been, and its predecessors in interest prior thereto and subsequent to 1868 have been, engaged in the manufacture and purchase of gas and in the transmission and sale thereof to the public generally,

in Los Angeles and surrounding territory, for lighting, cooking, heating, commercial and industrial purposes. The properties owned by plaintiff and used and useful in the conduct of its public utility gas business, as aforesaid, include manufacturing plants with a daily capacity of 100,000,000 cubic feet; storage holders, having a capacity of 65,000,000 cubic feet; more than 2,900 miles of mains, and in excess of 385,000 meters. Plaintiff's business fluctuates with the seasons of the year, being greater in winter than in summer, its maximum sales during a twenty-four hour period being as great as 136,000,000 cubic feet, and at other times as low as 26,000,000 cubic feet. Its gross revenues during the twelve months' period ended October 31, 1930, were $15,698,440. The value of said properties exceeds $95,000,000, as more specifically set forth hereafter.

II

The Railroad Commission of the State of California, one of the defendants herein (hereinafter called the Commission), is the administrative board of the State of California administering the regulatory powers over public utilities conferred upon it by the Constitution of the State of California, and by an Act of the Legislature of that State known as the "Public Utilities Act" (Stats. 1911, Ex. Sess., Chap. 14, page 18, Re-enacted 1915, Stats. 1915, Chap. 91, page 115, as amended). Under the Constitution [fol. 9] and said Public Utilities Act it is made the duty of said Commission to enforce the provisions thereof affecting public utilities and the imposition and collection of penalties due the State thereunder. The Commission has offices in the City of San Francisco, and in the City of Los Angeles, State of California.

That said Commission consists of five members, and that each of said defendants, C. L. Seavey, Leon O. Whitsell, Thomas S. Louttit, W. J. Carr, and Ezra W. Decoto, at the time the decision and order dated November 24, 1930, hereinafter mentioned, was made, was, ever since has been, and now is, a duly appointed, qualified and acting member of said Commission, and that said defendant members of said Commission, at all times in this sentence mentioned, constituted, and now constitute, said Commission. That each of said defendant members of said Commission is a

citizen and resident of the State of California; that said defendant C. L. Seavey resides in the City of Berkeley, in said State; that said defendant Leon O. Whitsell resides in the City of Santa Ana, in said State; that said defendant Thomas O. Louttit resides in the City of Stockton, in said State; that said defendant W. J. Carr resides in the City of Pasadena, in said State; and that said defendant Ezra W. Decoto resides in the City of Oakland, in said State.

III

The jurisdiction of this court depends upon subsection (14) of Section 41 of Title 28 of the United States Code, which provides for suits to redress the deprivation under color of any law, statute, ordinance, regulation, custom or usage of any State, of any right, privilege or immunity secured by the Constitution of the United States, and upon [fol. 10] sub-section (1) of said Section 41, which provides for suits arising under the Constitution of the United States. The amount in controversy, exclusive of interest and costs, exceeds the sum or value of Three Thousand Dollars ($3,000).

IV

In the exercise of its duties and powers under the said Constitution and Public Utilities Act, the Commission has, from time to time, by its order, fixed and prescribed the rates to be charged and collected by plaintiff for the sale of gas. On November 13, 1928, the Commission made its Decision No. 20448, prescribing the rates to be charged by plaintiff for gas, on and after December 1, 1928, which rates the Commission declared and found to be just and reasonable rates. Said rates are as follows:

Schedule No. 1

(Superseding Schedules No. 1 and No. 2)

General Service:

Applicable to domestic and commercial service for lighting, heating and cooking.

Natural Gas

Territory:

Districts No. 1 and No. 2 (Rate Area No. 1).

Rate:

First 300 cubic feet or less per meter per month, 80 cents. For use in excess of 300 cubic feet per meter per month, 7.25 cents per 100 cubic feet.

[fol. 11] Schedule No. 2

(Superseding Schedule No. 3)

General Service:

Applicable to domestic and commercial service for lighting, heating and cooking.

Natural Gas

Territory:

District No. 3 (Rate Area No. 2).

Rate:

First 300 cubic feet or less per meter per month, 80 cents. For use in excess of 300 cubic feet per meter per month, 7.7 cents per 100 cubic feet.

The rates theretofore in effect for gas for industrial purposes were not altered by said Decision, and at all times since said Decision have remained unchanged.

Pursuant to said Decision of November 13, 1928, plaintiff, commencing December 1, 1928, placed the rates therein prescribed in effect and ever since said date has been and now is charging and collecting said rates, and will charge and collect said rates in the future, unless prevented by the enforcement of the Decision and Order of the Railroad Commission hereinafter mentioned.

V

On October 1, 1929, the Commission, on its own motion, made an order instituting an investigation into the rates,

charges, classifications, rules, regulations, practices and contracts of plaintiff. Following the making of said order, and on November 12, 1929, and thereafter from time to time, hearings were held by said Commission, at which evidence, oral and documentary, was received as to the rea-
[fol. 12] sonableness of the rates then and now being charged by plaintiff, which rates were the rates that had been fixed and prescribed by the Commission by its said Decision dated November 13, 1928. Thereafter, and on November 24, 1930, the Commission made its Decision and Order in said investigation, a copy of which Decision and Order is attached hereto and marked Exhibit "A," and is hereby made a part of this Bill of Complaint. In and by said Decision and Order the Commission purported to find that the domestic and commercial rates for gas then and now being charged by plaintiff pursuant to the order of said Commission in its Decision effective December 1, 1928, were unjust and unreasonable.

Said Decision and Order are concurred in by four of the five members of the Commission. One of said members did not concur in said Decision and Order, but dissented therefrom, upon the ground that the majority decision as to the value of the property of plaintiff was incorrect in that it was too low and that its estimate of revenues was too high; and concluding that the new rates would not yield a return sufficient to cover the cost of money to plaintiff and that "under the evidence in this case any reduction in revenue is questionable." Said dissenting opinion is attached to the Decision and Order above referred to marked Exhibit "A," and is hereby made a part of this Bill of Complaint.

Said Decision and Order directed that plaintiff charge and collect for domestic and commercial gas sales as measured by meter readings, on and after January 1, 1931, the rates set forth in Exhibit "A" attached to said Decision and Order, which rates are as follows:

[fol. 13] Schedule No. G-1

Rate:

For continuous service for periods of one month or more:

First 300 cu. ft. or less per meter per month, 80 cents.

Next 3,700 cu. ft. per meter per month, 6.9 cents per 100 cu. ft.

All over 4,000 cu. ft. per meter per month, 5.9 cents per 100 cu. ft.

Schedule No. G-2

Rate:

For continuous service for periods of one month or more:

First 300 cu. ft. or less per meter per month, 80 cents.

Next 3,700 cu. ft. per meter per month, 7.3 cents per 100 cu. ft.

All over 4,000 cu. ft. per meter per month, 6.3 cents per 100 cu. ft.

The rates theretofore and now in effect for gas for industrial purposes were not found to be unjust or unreasonable, and said Decision and Order did not prescribe new or different rates for industrial gas.

VI

Thereafter, on December 3, 1930, and within the time allowed by law, plaintiff filed with the Commission its Petition for Rehearing, a copy of which petition is hereto annexed marked Exhibit "B," and is hereby made a part of this Bill of Complaint. Thereafter the Commission, on December 15, 1930, made its order denying a rehearing, a [fol. 14] copy of which order is hereto annexed marked Exhibit "C," and is hereby made a part of this Bill of Complaint.

VII

Said Decision and Order of November 24, 1930, is unconstitutional, void and unlawful in that:

(a) It deprives plaintiff of its property, and the use thereof, without due process of law, denies plaintiff the equal protection of the laws, and takes plaintiff's property, and the use thereof, for public use without just compensation, all contrary to and in violation of the Fourteenth Amendment to the Constitution of the United States.

(b) It prescribes rates which are unjust and unreasonable, less than just and reasonable, and which will not yield plaintiff a fair return upon the fair value of its property used and useful in the public service and thus deprives plaintiff of its property, and the use thereof, without due process of law; denies plaintiff the equal protection of the

laws; and takes plaintiff's property, and the use thereof, for public use without just compensation, all contrary to and in violation of the Fourteenth Amendment of the Constitution of the United States.

(c) The Commission, in making and entering said Decision and Order, while in form undertaking to prescribe just and reasonable rates to be charged and collected by plaintiff, in substance and in effect took and damaged the property of plaintiff for public use without just compensation, in violation of the Constitution of the State of California, and deprived plaintiff of its property, and of the use thereof, without due process of law, in violation of the Fourteenth Amendment to the Constitution of the United States.

[fol. 15]

VIII

The fail value of the property of plaintiff used and useful in the service of the public for the sale of gas, and the property used and useful in the service for which said rates are ordered and prescribed by said Decision and Order is now, has averaged during the calendar year 1930, and in the future will be, not less than $95,767,351.

IX

The return upon capital invested in Los Angeles and vicinity in other business undertakings which are attended by corresponding risks and uncertainties to that of plaintiff is now, has been for the last two years, and will for a reasonable period of time in the future, be not less than eight per cent (8%) per annum. The weighted average annual cost to plaintiff of the money invested in its said properties (including bond moneys, preferred stock moneys, and common stock moneys) during the period from 1909 to 1930 is not less than 7.12%. A fair return upon the fair value of said property of plaintiff is now, was during the year 1930, and in the future will be, not less than eight per cent (8%) per annum upon said fair value of plaintiff's property used and useful in the public service, to wit, a sum not less than $7,661,388 per annum.

X

In this connection the Commission in its said Decision and Order estimated the operating revenue, operating

charges, net for return, and per cent of return on the historical cost and the fair value, as defined by the Commission, during 1930, under the rates prescribed by said Decision and Order, as follows:

[fol. 16]	Historical basis	Fair-value basis
Operating Revenue	$15,003,000	$15,003,000
Operating Charges	10,315,000	10,388,000*
Net for Return	4,688,000	4,615,000
Rate Base	60,704,000	65,500,000
Rate of Return	7.7%	7.0%

That said estimates and findings are contrary to fact, are contrary to the evidence introduced in the proceeding, and contrary to law in that:

(a) The actual total operating revenue of plaintiff during the twelve months' period ended October 31, 1930, (the last twelve months' period for which figures are available) was $15,698,440 at present rates. Had the rates prescribed in said Decision and Order been in effect during said period, the total revenues would not have exceeded $14,352,450. The Commission's estimate of $15,003,000 is more than $650,000 in excess of what the actual revenue would have been during said twelve months' period, or would be for the calendar year 1930 under said rates prescribed in said Decision and Order.

(b) The actual operating expenses of plaintiff during the twelve months' period ended October 31, 1930, were $10,547,482. Had the rates prescribed in said Decision and Order been in effect during said period, the total expenses would not have been less than $10,284,983. The Commission's estimate of $10,315,000 is based upon estimated sales [fol. 17] of gas in excess of the amount actually sold in said twelve months' period, or the amount which will be sold in 1930, which would require the purchase of greater quantities of natural gas than actually were purchased, and for that reason is in excess of the actual expense; but had it not been for said erroneous estimate of gas sales, the estimate of expenses made by the Commission would be too low, in

*The difference between the two operating charge estimates is due to a difference in the amount of the depreciation annuity.

that the Commission specifically refused to allow or consider as operating expense of plaintiff, actual expenditures made by plaintiff for operating expense, which in the twelve months' period ended October 31, 1930, amounted to more than $300,000, and which expenditures will actually be incurred by plaintiff in 1931 in at least the sum of $300,000.

(c) The actual net for return during the twelve months' period ended October 31, 1930, was $5,150,958. Had the rates prescribed in said Decision and Order been in effect during said period the total net for return would not have exceeded $4,067,467. The Commission's estimate of $4,688,000 is more than $620,500 (or $1,700 per day) in excess of what the actual net for return would have been during said twelve months' period or would be for the calendar year 1930 under said rates prescribed in said Decision and Order.

(d) The fair value of the said properties of plaintiff during said period was and in the future will be not less than $95,767,351. The actual historical cost of said properties of plaintiff is not less than $68,561,888, not including going concern value. The rate base of $60,704,000 as fixed by the [fol. 18] Commission as Historical Cost, is shown by the evidence and by said Decision and Order not to be the Historical Cost, but to be a figure obtained as follows: by adding (1) to an appraisal made by a Commission Engineer as of October 1, 1915, (2) the net additions and betterments to plaintiff's property since that date as they appear on plaintiff's books (notwithstanding that the testimony of the Commission's Engineers in said proceeding shows that said book entries are in error and that the actual cost of said additions and betterments is greatly in excess of the said book entries), (3) land at its December 31, 1929, market value, and (4) theoretical and erroneous estimates of working cash capital and materials and supplies in the amount of $1,095,000, whereas the actual amount thereof used and needed by plaintiff is now, was during the year 1930, and will be in the future, not less than $2,946,585.

The rate base of $65,500,000, as fixed by the Commission as "fair value," is shown by the said Decision and Order, and by the evidence in the proceeding, not to be the fair value determined in accordance with the law of the land, but to be a figure obtained by pricing the inventory items at

the prices existing on June 15, 1930, land at its market value as of January 1, 1930, and adding thereto, for engineering and superintendence, legal expense, injuries, damages and miscellaneous expense, errors, omissions and contingencies and taxes and interest during construction, a percentage of 6.35%, notwithstanding the Commission's engineers testified that the percentage that should be added thereto for said items, if the property were to be repro-
[fol. 19] duced, should be not less than 22.32%, and that the cost to reproduce said property as of December 31, 1929, was not less than $73,637,542; there being no testimony whatever in support of any lower percentage than 22.32%, and notwithstanding the preponderance of evidence showed that said percentage should not be less than 24.27%. In fixing said fair value figure, the Commission totally ignored and failed to include therein any sum for going value notwithstanding the fact is, and the uncontradicted evidence showed, that the said properties possess a going value of at least $9,228,667. The Commission in fixing said figure also ignored and failed to include therein any sum for cost of financing or cost of promoters' remuneration, notwithstanding the uncontradicted evidence showed that the former existed and does exist in the amount of at least $5,921,470 and the latter existed and does exist in the amount of at least $2,500,000.

The Commission also allowed for materials and supplies and working cash capital, upon the basis of a theoretical and erroneous estimate, the sum of $1,095,000, whereas the actual requirements of plaintiff therefor are now, were during the year 1930, and will be in the future, not less than $2,946,585.

(e) If the rates prescribed in said Decision and Order had been in effect during said twelve months' period ended October 31, 1930, plaintiff would have earned as net revenue available for return, a sum not in excess of $4,067,467, which would constitute a return, upon the value of property of plaintiff used and useful in the service of the public, as follows:

[fol. 20]	Fair value	Historical cost (without going value)
	$95,767,351	$68,561,888
	4 25%	5 93%

(f) The gross and net earnings of plaintiff during the calendar year 1931, and its annual earnings during the years immediately succeeding under the rates prescribed in said Decision and Order, cannot be expected to exceed, and will not exceed, the results which would have been realized for the twelve months' period ended October 31, 1930, under said rates, as above set forth.

The above may be summarized as follows:

[fol. 21]

Results under Rates Prescribed in Commission's Decision and Order

	As estimated in Commission's decision and order—estimate year 1930		Plaintiff's allegations based on 12 months ended Oct. 31, 1930, and year 1931	
	Historical basis	Fair-value basis	Historical cost (without going value)	Fair value
Operating Revenue	$15,003,000	$15,003,000	$14,352,450	$14,352,450
Operating Charges	10,315,000	10,388,000	10,284,983	10,314,672
Net for Return	4,688,000	4,615,000	4,067,467	4,037,778
Rate Base	60,704,000	65,500,000	68,561,888	95,767,351
Rate of Return	7.7%	7.0%	5.93%	4.22%
Rate of Return with Going Value of $9,228,667	.....	.....	(77,790,555) 5.23%	.....
8% Return	$4,856,320	$5,240,000	$6,223,244	$7,661,388
Annual Deficiency below 8% Return	168,320	625,000	2,155,777	3,623,610
Average daily Deficiency below 8% Return	460	1,700	5,900	9,920

The actual results of operations during the twelve months' period ended October 31, 1930, adjusted only to allow for the rates prescribed in the said Decision and Order as above set forth would constitute a return upon the values found by the Commission in said Decision as follows:

[fol.22]

	Historical basis	Fair-value basis
Rate of Return	6.70%	6.16%
Annual Deficiency below 8% Return	$788,853	$1,202,222
Average daily Deficiency below 8% Return	2,160	3,290

XI

Unless the rates prescribed in said Decision and Order are enjoined and restrained as hereinafter prayed for, plaintiff will be compelled to charge and collect said rates,

and, under such conditions, said rates will not in the year 1931 and in the immediately subsequent years, yield as a return upon the said properties of plaintiff used and useful in the service of the public, an amount in excess of $4,037,778 per annum, which would constitute a return at the rate of 4.22% per annum upon the fair value of plaintiff's property; or $3,623,610 per annum (an average of $9,920 per day) less than a return of 8% per annum on the fair value of said properties. That said rates, therefore, are not compensatory but are confiscatory and are less than just and reasonable rates.

XII

The rates prescribed in said Decision and Order will reduce the gross revenues of plaintiff during the year 1931 and subsequent years by an amount not less than $1,300,000 per year, and its net revenue available for a return upon its said property by an amount not less than $1,080,000 per year, below the gross and net earnings that would be received by plaintiff under the present rates prescribed by [fol. 23] said Commission as just and reasonable rates by its Decision dated November 13, 1928. In this connection the Commission found in its said Decision and Order of November 24, 1930, that the new rates "are carefully calculated and intended to effect a reduction in the company's gross domestic and commercial revenue of 9 per cent." Said rates prescribed in said Decision and Order constitute a percentage reduction as compared with the present rates (prescribed by said Decision and Order of November 13, 1928), as follows:

	Rates prescribed		
	Present rates	In decision and order	Percentage reduction
Schedule 1:			
First 300 cu. ft. per meter	80c	80c	.....
Next 3700 cu. ft. per 100 cu. ft.	7.25	6.9	4.83%
Over 4000 cu. ft. per 100 cu. ft.	7.25	5.9	18.62%
Schedule 2:			
First 300 cu. ft. per meter	80c	80c	.....
Next 3700 cu. ft. per 100 cu. ft.	7.7	7.3	5.19%
All over 4000 cu. ft. per 100 cu. ft.	7.7	6.3	18.18%

[fol. 24]

XIII

Said Decision and Order prescribes certain temporary optional rates which plaintiff may adopt in lieu of the rates above mentioned, upon condition—

(a) That plaintiff set up a temperature reserve upon the conditions prescribed in said Decision and Order;

(b) That plaintiff credit to said reserve all net earnings of its said properties during 1931 available for a net return on said properties, in excess of $4,650,000, after excluding certain operating expenses of plaintiff;

(c) That the disposition of the moneys in the reserve shall be subject to the approval of the Commission and that the proceeding shall be kept open for such further orders as may be proper.

Said Decision and Order insofar as it prescribed said temporary optional rates is unconstitutional, void and unlawful upon each of the grounds set forth in Paragraph VIII hereof.

Said temporary optional rates would not yield in 1931, or the immediately succeeding years, a gross revenue in excess of 2% more than that which it is hereinabove alleged would be yielded by the rates prescribed in said Decision and Order, and would therefore fail to yield a fair return upon the fair value of plaintiff's property devoted to the public service, for the reasons hereinabove stated.

Said Decision and Order insofar as it prescribes said temporary optional rates, limits the net return of plaintiff during the year 1931 to $4,650,000, which return, if re- [fol. 25] ceived, would be less than a fair return upon the fair value of the property of plaintiff used and useful in the service of the public during said year, and would not allow plaintiff to include in its operating expenses in determining said net returns certain of its proper operating expenses amounting to in excess of $300,000, so that in effect said Decision and Order would limit plaintiff's net return to less than $4,350,000.

Said Decision and Order is also unconstitutional, void and unlawful, because it is in excess of and beyond the power of the Commission, in that it is not the exercise of the power to fix just and reasonable rates, but is an attempt to direct, control and recapture the ownership, use and disposition of the funds and properties of plaintiff, and is further, an unlawful attempt to force and compel plaintiff to agree to a procedure which it is beyond the lawful power of the Commission to prescribe or enforce, by offering it as an optional alternative to even lower rates, which are themselves unconstitutional, void and unlawful.

XIV

Said Decision and Order directs plaintiff to put the rates therein prescribed into effect for all meter readings on and after January 1, 1931, and unless the enforcement, operation and execution of the Decision and Order is restrained and suspended during the pendency of this proceeding, immediate and irreparable injury will ensue to plaintiff in that it will be compelled under the severe penalties imposed by the Public Utilities Act, to prescribe, collect and charge the lesser rates fixed by said Decision and Order and no other or greater rates may lawfully be demanded or collected by it, so long as said Decision and Order re- [fol. 26] mains in effect, and upon final judgment in this proceeding annul-ing said Decision and Order plaintiff will be unable to recover from said consumers the difference between the present rates and the rates prescribed in said Decision and Order. This difference will amount to not less than $1,300,000 during the year 1931, and in each subsequent year, all of which will be irrevocably lost to plaintiff. The average daily loss so occasioned to plaintiff will be in excess of $3,500 and will be greatly in excess of that amount during January and the other winter months.

On the other hand, the consumers, if the Decision and Order is sustained, may recover from the plaintiff the difference between the rates prescribed in said Decision and Order and the present rates, and the plaintiff is willing to give such bond or other security as may be deemed proper by the court to refund to each such consumer, if said Decision and Order be upheld, the difference between the amounts paid by them and the amounts which would be due under said Decision and Order, without the necessity of commencing or prosecuting any suit or action for the recovery thereof. Should plaintiff fail to comply with the said Decision and Order of the Commission dated November 24, 1930, and should plaintiff continue or attempt to continue to charge and collect the rates now in effect, or any rates other than those prescribed in said Decision and Order, the Commission will, unless restrained by the judgment or order of this court, institute, or cause to be instituted, proceedings to compel compliance with said Order and Decision, and plaintiff, its officers, directors, agents and employees, will be subjected to a multiplicity of suits

and contempt proceedings and will incur and become liable [fol. 27] for the penalties and punishment prescribed by the terms and provisions of the Public Utilities Act, which authorize a fine of not to exceed $2,000 to be imposed upon plaintiff, or a fine not exceeding $1,000 and imprisonment in the county jail not exceeding one year, or both said fine and imprisonment for its officers, directors, agents and employees for each and every offense, and which provide that each violation of said Act, or of an order of the Commission thereunder, is a separate and distinct offense, and that in case of a continuing violation, each continuance thereof shall be and be deemed to be a separate offense, and which further provide that all penalties accruing under said Act shall be cumulative. Plaintiff has no plain, speedy or adequate remedy at law.

Wherefore plaintiff prays:

1. That on the filing of this Bill of Complaint there be issued forthwith an order restraining, for the period allowed by law and pending the hearing of plaintiff's motion for an interlocutory injunction, the defendants, their officers, attorneys, agents, servants and employees, from enforcing, or attempting to enforce, the Decision and Order dated November 24, 1930, hereinbefore referred to, or any part thereof, and from taking, advising or aiding in any action, suit or proceeding of any kind or character whatsoever to enforce the same or any part thereof, or to subject plaintiff, or its officers, agents or employees, or any of them, to any fine, penalty, damages or demand for failure or refusal to observe or comply with said Decision and Order.

2. That after a hearing, on notice to defendants and to the Governor and the Attorney-General of the State of California, as required by law, this court enter its order [fol. 28] for an interlocutory injunction suspending and restraining the enforcement, operation or execution of said Decision and Order and each and every part thereof during the pendency of this action.

3. That after a hearing, held in accordance with law, this court order, adjudge and decree—

(a) That the said Decision and Order is arbitrary, confiscatory, void and in violation of the Constitution of the

United States, and that it be annulled, vacated and set aside;

(b) That the Railroad Commission of the State of California, and its members, officers, attorneys, agents, servants and employees, and any and every other person acting or claiming, assuming or attempting to act under and by virtue of said Decision and Order, and any and all other persons, associations or corporations, municipal or otherwise, who now or shall hereafter seek, or attempt to take any steps or proceedings under or pursuant to, or by virtue of, said Decision and Order, or otherwise, be perpetually enjoined from enforcing or attempting to enforce said Decision and Order, or the rates therein prescribed, against plaintiff, or otherwise, or from advising, instituting, prosecuting or aiding any action, suit or proceeding of any kind or character under the laws of the State of California, or otherwise, to recover from or impose upon or enforce against plaintiff, or any of its officers, agents or employees, or any of them, any fine, penalty, damages or demand for failure or refusal to obey, observe or comply with said Decision and Order or to charge and collect the rates prescribed in said Decision and Order; or from in-
[fol. 29] terfering with or attempting to interfere with or from advising, instituting, prosecuting or aiding in any act, action, suit or proceeding to interfere with, restrain or prevent plaintiff, or any of its officers, agents or employees, or any of them, from charging and/or collecting the rates now being charged and collected by plaintiff.

4. That the court make such other and further order or orders as is meet and proper in the premises.

Dated Los Angeles, December 22, 1930.

Los Angeles Gas and Electric Corporation, by H. L. Masser, Vice-President, Plaintiff. Herman Phleger, Paul Overton, Solicitors for Plaintiff.

[fol. 30] *Duly sworn to by H. L. Masser. Jurat omitted in printing.*

[fol. 31] EXHIBIT "A" TO BILL OF COMPLAINT

BEFORE THE RAILROAD COMMISSION OF THE STATE OF CALIFORNIA

Decision No. 23102. Case No. 2747

In the Matter of the Investigation, Upon the Commission's Own Motion, Into the Rates, Charges, Classifications, Rules, Regulations, Practices and Contracts of Los Angeles Gas and Electric Corporation

Herman Phleger and Paul Overton for Los Angeles Gas and Electric Corporation.

Erwin P. Werner, Thurmond Clarke, Frederick Von Schrader, and Milton Bryan for the City of Los Angeles.

Leonard A. Diether, Deputy City Attorney, for the City of Pasadena.

John J. O'Toole, City Attorney of the City and County of San Francisco, and Dion R. Holm, Special Counsel, Associated Counsel for the City of Los Angeles.

J. O. Marsh and F. F. Ball for the Board of Public Utilities of the City of Los Angeles.

Chester L. Coffin, City Attorney, for the City of Santa Monica.

Opinion

CARR, Commissioner:

This is a proceeding instituted by the Commission on its own motion as one of a series of investigations into the rates of various utilities in the State which from data on file apparently were realizing a better net earning than was deemed reasonable.

The proceding was called on November 12, 1929, when members of the Commission's technical staff presented evi- [fol. 32] dence and exhibits indicating the earning position of the Company, both in its gas and in its electric departments.

Electric Department Rates:

In its electrical business the Company is in competition with the City of Los Angeles. After the institution of

this proceeding the City announced a reduction in its lighting and power rates effective in January, 1930, and the Company requested permission to meet these reduced rates. This, it was estimated, would effect a reduction in the Company's revenue of approximately $737,000.00 in the year 1930. Evidence presented by engineers of the Commission was to the effect that with such a reduction the Company would still be earning in its electrical department approximately 7.03 percent on its investment as shown on its books but with land accounts adjusted to current values. The Company claimed a somewhat lesser yield than this on the theory that its sales would suffer because of business depression. Under the circumstances an interlocutory order was made permitting the Company to charge the rates sought. Actual experience during the pendency of this proceeding has not borne out the fears of the Company. Its sales have increased normally. Under the circumstances the interim electrical rates should be made permanent.

Gas Rates:

In the initial stages of the proceeding the Company protested vigorously that the business depression was seriously affecting its gas business and that it was engaged in making an inventory of its gas property which would require some months to complete. Time for this, as well as to determine more definitely the effect of the business de- [fol. 33] pression on its gas sales, was sought. Finally all parties stipulated that evidence should be in by July 1, 1930, a program which was substantially carried out, the hearings being completed on July 16th.

In all, twenty-four days were occupied in the presentation of evidence, the transcript of testimony numbering 2130 pages and the exhibits mounting in number to 67. Decisions in various prior rate cases affecting the Company, together with the voluminous records upon which based, as well as the Company's annual and other regular reports, were received in evidence. About every aspect of rate base and valuation was covered extensively by testimony and exhibits, as well as all other items bearing upon what would be a reasonable rate structure for the future.

Out of all the conflicting and inconsistent claims in evidence it becomes necessary to reach a sane and just con-

clusion as to what will constitute reasonable rates for the future—rates which will be in harmony with the bases applied to other utilities subject to regulation by this Commission.

Test of Reasonableness:

This Commission for many years, in the exercise of its jurisdiction to establish reasonable rates for utilities of this character, has fixed rates to yield upon the historical or actual cost of the property, taking land, however, at current values and depreciation calculated on a sinking fund basis, a return somewhat in excess of the cost of the money invested in the property. Where the books were accurately kept these have been deemed to most accurately reflect the actual cost of the structural and other property. Sometimes, when these were not reliable, it has been found neces- [fol. 34] sary to estimate what it cost to produce the whole or parts of the property historically.

(Re Coast Valleys Gas & Electric Co., (1917) 14 C. R. C. 460; Southern Sierras Power Co., (1920) 18 C. R. C. 818; Southern California Edison Company, (1921) 19 C. R. C. 595, and (1923) 23 C. R. C. 981; San Joaquin Light & Power Corporation, (1922) 21 C. R. C. 545; Pacific Gas & Electric Co., (1922) 22 C. R. C. 744; Great Western Power Co., (1923) 22 C. R. C. 814; Pacific Tel. & Tel. Co. (1929), 33 C. R. C. 737.)

Under rates fixed on this basis utilities of this character have grown strong and prosperous They have experienced no difficulty in securing capital for extensions and new development. Confidence in investments in such utilities has increased and capital has flowed to this field of investment readily and at a gradually decreasing rate or cost.[1]

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1. In the published annual report of the Railroad Commission for 1918-9 it appears that at the close of the year 1918 the aggregate fixed capital of the gas and electric utilities of the State was $468,688,407.07. Between 1918 and 1928 this increased rapidly, the total aggregate fixed capital mounting to a total of $1,185,372,478.71 by the close of 1928 (annual report for 1928-9). The aggregate par value of issued bonds and stock of gas and electric utilities,

[fol. 37] The Los Angeles Gas & Electric Corporation in respect to its gas operations has been before this Commission frequently since the time the Commission was given jurisdiction over its rates, sometimes on its application for authority to increase its rates, sometimes at the instance of the Commission or of complainants looking to reduction

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as taken from the annual reports of the Commission, was $543,285,594.04 in 1918 and $1,123,658,757.82 in 1928, an increase of $580,373,163.78. The increase includes $310,500,627.50 of bonds. An analysis of reports filed with the Commission shows that the remainder of $269,872,536.28 consists of $219,943,547.94 of preferred stock and $49,928,-988.34 of common.

The following tabulation shows the basis on which the Railroad Commission has authorized Southern California Edison Company and Pacific Gas and Electric Company to issue bonds and preferred stocks, being indicative not only of their growth but of the lessening cost of money:

[fol. 35]

Southern California Edison Co.

	Bonds			Preferred stock		
Year	Reference	Amount	Effective rate %	Reference	Amount	Effective rate %
1919	16 CRC 423	$8,000,000	6.58	.....	.....	....
1920	18 CRC 164	5,000,000	7.54	.....	.....	....
1921	20 CRC 294	6,000,000	7.80	.....	.....	....
1922	22 CRC 417	5,160,000	5.75	22 CRC 45	$9,500,000	7.00
1923	24 CRC 46	12,500,000	6.50	23 CRC 651	5,000,000	7.00
1924	24 CRC 594	14,000,000	6.45	25 CRC 579	10,000,000	6.86
1925	.....	.....	....	27 CRC 130	10,000,000	6.25
1926	Dec. 16781	40,000,000	5.40	28 CRC 370	10,000,000	6.25
1927	30 CRC 355	30,000,000	5.20	30 CRC 754	10,000,000	5.85
1928	.....	.....	....	31 CRC 439	10,000,000	5.61
1929	33 CRC 461	15,000,000	5.40	32 CRC 745	10,000,000	5.61
1930	Dec. 22121	5,000,000	5.18	.....	.....	....

[fol. 36]

Pacific Gas and Electric Co.

1918	16 CRC 184	$5,000,000	6.20	16 CRC 184	5,000,000	7.27
1919	.....	.....	....	16 CRC 983	3,500,000	7.06
1920	19 CRC 140	10,000,000	7.63	19 CRC 7	5,000,000	7.50
1921	19 CRC 875	1,000,000	7.63	20 CRC 688	2,000,000	7.50
1922	21 CRC 128	10,000,000	6.40	22 CRC 166	5,000,000	6.86
1923	23 CRC 889	10,000,000	6.06	22 CRC 923	2,500,000	6.67
1924	25 CRC 307	12,500,000	5.90	.....	.....	....
1925	26 CRC 531	10,000,000	5.87	27 CRC 335	2,500,000	6.32
1926	28 CRC 62	10,000,000	5.37	29 CRC 137	1,000,000	6.00
1927	30 CRC 377	15,000,000	4.90	29 CRC 276	5,000,000	6.12
1928	31 CRC 114	20,000,000	4.75	32 CRC 221	10,000,000	5.61
1930	Dec. 22708	25,000,000	4.92	Dec. 22488	10,000,000	5.61

of rates.[2] In all of these various proceedings rates were tested or measured by the standard stated above. Its rate base for its gas department has grown from approximately $12,500,000 in 1916 to nearly $59,000,000 in 1929, and its in- [fol. 38] dependent active meters from 131,500 to 351,000 during the same period.

The growth in its gas department has been even exceeded by that in its electrical department, its rate base in that having increased from approximately $6,000,000 in 1916 to over $41,000,000 in 1929. The Company's total invested capital during the past fifteen years has increased to a sum more than five times the amount at the beginning of that period.

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2. By constitutional amendment adopted in 1914, the Railroad Commission was vested with jurisdiction over the rates of the Company. Shortly thereafter application was made for an increase in rates while the City of Los Angeles filed a complaint attacking the rates. An extensive investigation followed and the two matters were disposed of by a decision handed down in August, 1917. (Re Los Angeles Gas & Electric Corp., 13 C. R. C. 724.) Rates were fixed on the basis stated, estimated to yield an 8 percent return. The following year the Company again sought an increase in rates in the form of a surcharge and rates were fixed to yield an estimated return of 7.87 percent. (Re Los Angeles Gas & Electric Corp., 16 C. R. C. 478.) In June 1921 this Commission again, on application of the Company, granted an increase in rates, the charges authorized being calculated to yield a return on the basis stated of 8 percent and 9 percent on certain capital which had called for a high interest rate. (Re Los Angeles Gas & Electric Corp., 20 C. R. C. 93.) Rates were next fixed at the close of the year 1926, the matter coming before the Commission in the Company's application for an increase. The same basis for determining reasonableness was used and the rate of return deemed reasonable was 7.8 percent. (Re Los Angeles Gas & Electric Corp., 29 C. R. C. 164.) Following a complaint by the City of Los Angeles rates of the Company were reduced late in the year 1928, the rates fixed being estimated to yield a return of slightly in excess of 7½ percent. (Re Los Angeles Gas & Electric Corp., 32 C. R. C. 379.)

This remarkable growth has been financed largely by the sale of the Company's bonds and preferred stock, these having been marketed at a gradually lessening cost, so that the present annual cost of its bond and preferred stock money is 6.17 percent. Also, its depreciation reserve has been invested in the property. If this be included with its bond and preferred stock money at the rate of 6 percent, being the rate at which it is required to account for its reserve, the annual cost of its bond, preferred stock and depreciation reserve money is but 6.14 percent. On December 31, 1929 the Company had outstanding in the hands of the public $47,070,000 par value of bonds, $19,469,995 par value of preferred stock, and $20,000,000 par value of common stock. Its depreciation reserve on that date was reported at $16,804,105.15. All of its common stock is owned by Pacific Lighting Corporation. Since 1916 but $4,500,000 of this stock has been purchased for cash, $5,500,000, however, having been distributed to Pacific Light [fol. 39] ing Corporation in the form of stock dividends, representing earnings left in the property. Dividends have been paid on its common stock of 7.20 percent per share ($100 par value) in 1916, 1917 and 1918; 7.4 percent in 1919; 8.4 percent in 1920, 1921 and 1922; 8.7 percent in 1923; 33.75 percent in 1924, included in which is 25 percent as a stock dividend of $2,500,000; 9 percent in 1925; 9.815 percent in 1926; 35.17 percent in 1927, which includes a stock dividend of 21.42 percent, or $3,000,000; 15 percent in 1928, and 17 percent in 1929. The Company's surplus has grown from $381,212.97 in 1916 to $4,176,663.09 in 1929, while its depreciation reserve increased from $3,804,383.36 to, as said above, $16,804,105.15.

Past Earnings:

Table I, built up from findings in Commission's decisions, records upon which such decisions are based, and the Company's annual reports, indicates the earning position of the Company for the years 1916 to 1929, inclusive, the basis upon which its rates and the rates of other utilities have been measured as to reasonableness, except that in view of the conclusions hereafter reached respecting consumers' advances this item has not been deducted in building up the rate bases. In this table adjustments have not been

made for temperature conditions or otherwise. The figures are those reported by the Company checked against Commission findings. Land values not having been fixed each [fol. 40] year, the latest value has been taken and carried back to a year in which they have been fixed.[3] As to its electric properties, land values of date have been carried [fol. 42] back to 1920. Figures for working cash capital and materials and supplies have had to be approximated.

Further consideration of the record and the order which should be made logically falls under four divisions or parts as follows:

Part I. Earning position of the Company in 1928, 1929, and 1930, on the basis heretofore used in respect to this and other comparable utilities in fixing rates.

Part II. Comparable earning position of the Company in the same years on the so-called fair value basis.

Part III. Reasonable return and rates proper to be established.

Part IV. Temperature reserve.

As prefatory to the discussion which follows, it is pertinent to point out that when the system of regulation of public utilities first took form in this State it became necessary to establish, and there were established, uniform system of accounts for various classes of utilities, including gas and electric, subject to the jurisdiction of the Commission. In framing this system of accounting every reasonable or conceivable item of expenditure was covered in one way or another. Some clearly fell into the category of capital expenditure, such as the direct material and labor costs of physical property; others, with equal clarity, fell into the classification of current operating expense; others

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3. The effect of this in increasing the rate base and consequently lowering the rate of return is illustrated by the testimony of Mr. Masser, of the Company, on November 23, 1925, where in testifying as to the earnings of the gas department of the Company in preceding years he pointed out that the return in 1922 was 7.4 percent, in 1923 6.31 percent, and in 1924 6.81 percent, all, it will be observed, slightly in excess of that shown in Table I:

[fol. 41]

Table No. 1

Rate Base, Return, and Rate of Return, Gas and Electric Departments, Years 1916-1929

Year	Gas department			Electric department			Combined department rate of return
	Rate base	Net for return	Rate of return	Rate base	Net for return	Rate of return	
1916	$12,592,434	$1,153,122	9.16	$6,070,000	$499,571	8.23	8.86
1917	13,039,710	1,114,879	8.54	6,289,000	353,842	5.62	7.60
1918	13,398,711	906,576	6.77	6,438,000	407,916	6.34	6.63
1919	13,971,705	1,160,816	8.31	6,517,000	424,990	6.52	7.74
1920	15,211,534	1,207,429	7.94	7,030,000	507,598	7.22	7.71
1921	21,327,234	1,119,569	5.25	8,348,000	740,298	8.87	6.27
1922	29,043,144	2,067,732	7.12	10,379,000	1,174,793	11.32	8.23
1923	37,503,113	2,293,835	6.12	13,352,000	1,809,154	13.55	8.07
1924	45,466,184	3,022,031	6.65	17,483,000	2,603,692	14.89	8.94
1925	51,317,326	3,483,519	6.79	24,426,000	2,323,659	9.51	7.67
1926	54,699,052	3,480,761	6.36	31,030,000	2,751,426	8.87	7.27
1927	56,802,089	5,046,259	8.88	33,741,000	3,072,487	9.11	8.97
1928	57,682,659	5,095,917	8.83	37,567,000	3,298,277	8.78	8.81
1929	59,070,663	5,705,990	9.66	41,338,000	3,621,764	8.76	9.29
Average			7.65			9.44	8.26

were of a nature to be grouped with balance sheet income or surplus accounts. Some accounts were not of a character to be so clearly classified. New business expense, for instance, into which account there was intended to flow [fol. 43] all items of expenditure having to do with the cost of attaching business, might have been considered as a capital expenditure or as an operating expense. It was put into the latter classification.

Into organization expense, a capital item, there was permitted to flow not only all expenses of organizing the corporation but also costs of promotion and the expenses incident to the sale of common and preferred stock.

The Commission, in exercising its functions of determining reasonable rates for utilities and in otherwise exercising its jurisdiction over them, has always attached great importance to the utilities' accounts and accounting where the books and records have been accurately kept, as appears to have been done by this Company. The same policy is here observed.

Part I

The order here made deals with the future but in determining probable operative results great weight must be given to the actual experience of the Company.[4] Rates of course are not fixed for any particular calendar year. However, what happened in 1928 and 1929 and what is likely to happen for the year 1930, due allowance being made for abnormal or non-recurring conditions in those years both as they affect revenue and operating expense, will be helpful in appraising the future. Here there are present various abnormal conditions for which due allow- [fol. 44] ance must be made. The gross revenue, as well as net operating revenue, for instance, is substantially affected by temperature conditions. Nearly 65 per cent of

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4. In recent rate cases the Commission has experienced difficulty in fixing rates which yielded the rate of return intended and thought reasonable. Late in 1926 rates were fixed to yield a return of 7.8 percent (29 C. R. C. 164). They actually yielded in 1927 8.88 percent and in 1928 8.83 percent (See Table I). Again, late in 1928, the Commission fixed rates to yield a return of 7½ percent (32 C. R. C. 379). They actually yielded a return of 9.66 percent.

the Company's gross revenue is derived in the months from November to April, inclusive. If low temperatures are experienced over this period revenues are correspondingly high. Conversely, warm weather means low revenues. However, the ingenuity of the engineers has evolved formulas by which sales, revenue and cost of purchased gas may be translated to normal temperature conditions.

The following Table II states operating results of the Company's gas department for the year 1928, adjusted in respect to operating revenue and cost of natural gas to reflect normal temperature conditions and existing rates and depreciation on the basis hereinafter discussed and found to be reasonable; for the year 1929 likewise adjusted to reflect normal temperature conditions and for depreciation, and also to eliminate the Pacific Lighting Corporation payment herein found to be unjustified; and for 1930 as estimated by the Company adjusted to a normal temperature year and adjusted for depreciation and with the Pacific Lighting Corporation payment eliminated and for cost of gas from Southern California Gas Company at the present authorized rate. Taxes for each of these years have been adjusted to reflect the adjustments in gross and net revenues. The rate base figures used will be treated subsequently.

[fol. 45] Table No. II

Adjusted Operating Results of Gas Department of Los Angeles Gas and Electric Corporation for Years 1928, 1929, and 1930—Historical Basis

	1928	1929	1930, est.
Operating Revenue	$14,959,000	$15,989,000	$16,415,000
Operating Expenses:			
Production	$4,597,000	$4,617,000	$4,612,000
Transmission	1,000	6,000	.....
Distribution	847,000	780,000	1,123,000
Commercial	829,000	889,000	885,000
New Business	112,000	110,000	114,000
General	701,000	720,000	1,005,000
Sub-total	$7,087,000	$7,122,000	$7,739,000
Depreciation	$943,000	$967,000	$990,000
Taxes	1,525,000	1,615,000	1,647,000
Uncollectible Bills	130,000	180,000	182,000
Sub-total	$2,598,000	$2,762,000	$2,819,000
Total Operating Expense	$9,685,000	$9,884,000	$10,558,000
Net for Return	5,274,000	6,105,000	5,857,000
Rate Base	57,838,000	59,226,000	60,704,000
Rate of Return	9.1%	10.3%	9.6%
Weighted Average Return for 3-year Period	.....	9.7%	.....

Rate Base

The rate bases in this table are built upon that established in 1917 (13 C. R. C. 724) augmented by net additions and betterments as entered upon the Company's books but with land in 1928, 1929 and 1930 at its value as of December 31, 1929, as testified to by Mr. McAuliffe, land appraiser of the Commission.[5] These bases have not been raised as [fol. 46] urged by the Company because of the claimed omission of so-called overhead charges, allocated by the Company from year to year and in the ordinary course of its accounting practice to operating expense.

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5. The break-down of the rate base figure used for 1930 is as follows:

Intangible capital as of December 31, 1929:		
Organization	$415,735	
Franchises	13,391	
Total Intangible Capital		$429,126
Tangible Capital as of December 31, 1929:		
Land	$3,500,888	
Production Capital	19,215,650	
Distribution Capital	32,205,912	
General Capital	3,335,611	
Total Tangible Capital		58,258,061
Additional Allowance for Interest during Construction	155,000	
Grand Total Fixed Capital as of December 31, 1929	$58,842,187	
One-half (Company's Estimate) Net Additions and Betterments for 1930	767,103	
Average Fixed Capital, 1930	59,609,290	
Materials and Supplies	450,000	
Working Cash Capital	645,000	
Rate Base	60,704,290	
Rate Base Used	60,704,000	

Estimates of the historical cost of the structural property were made in this proceeding, both by the Company

[fol. 47] In the initial case involving the gas rates of this Company a rate base was fixed including overhead charges substantially higher than those charged by the Company in preceding years and approximating those now claimed. The Company was thus fully apprised of a basis of assigning to capital certain general charges allocatable in part to capital and in part to operation. Notwithstanding the fact that it was thus definitely advised of the propriety of allocating more of these to capital and less to operation, the Company, in subsequently making these splits or allocations, saw fit to allocate on its books the bulk of these to operation much as it had done prior to 1917. Under the uniform system of accounts a considerable range of discretion in making allocations such as here involved rests with the Company.[6] Either the responsible accounting officers

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and by the Commission's Valuation Department. Excluding overheads, the Company reached a figure approximately $300,000 higher than the one obtained by taking the 1917 rate base as fixed by the Commission in its first decision and building up on that, while the Valuation Department of the Commission reached a figure approximately $300,000. lower than the one thus obtained. The fact that each of these estimates, independently reached by employing somewhat different methods and procedure, corresponded so closely to the historical cost figure as used and accepted by the Commission and by the Company as correct in the series of rate determinations running from 1917 to 1928, confirms its substantial accuracy. The figure used conforms to the accounting practice of the Company as to the bulk of its investment, which has increased from approximately $13,000,000. on 1917 to over $58,000,000. in 1929, the difference representing net additions and betterments during this period as inscribed in the Company's books and records. Mr. McAuliffe and the Company's land appraiser were surprisingly close in their results. In the few points of difference Mr. McAuliffe's testimony was the more convincing.

6. Section 2 of General Instructions and Definitions respecting classification of fixed capital accounts provides that "so far as possible overhead construction costs, such as engineering costs, law expenses, injuries and damages,

of the Company made these allocations in the exercise of their best judgment at the time when all of the facts were fresh in their minds, or for reasons presumably to the advantage of the Company, deliberately undercharged capital and overcharged operation. In the various proceedings [fol. 48] before the Commission it reported additions and betterments, as well as operating expenses, based upon its books and the allocations there recorded.[7] The findings of

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taxes and interest during construction, shall be assigned or apportioned to particular accounts, to the end that each item of property shall bear its proper share of such cost and that the entire cost of the item of property, both direct and overhead, may be deducted from the fixed capital accounts at the time the item of property is retired." The Company claims, and it is not questioned, that its books and records are unusually full and complete and most carefully kept. Accounting practices are worked out in considerable detail for the allocation and assignment of overheads to capital accounts. The whole record negatives any idea of omissions or oversights in respect to making these.

7. Thus, Mr. W. E. Houghton, controller of the Company, testifying on March 21, 1921, respecting the rate base as of July 1, 1920, testified as follows:

"I started with the rate base which was arrived at by the Railroad Commission in its Decision No. 6139, which I believe was the last gas rate fixing case for this Company, and found that the allowance, exclusive of that for working cash capital and materials and supplies, was $12,868,711.44. To that amount are then added the net additions to the plant as shown by our books, amounting, from July 1, 1918, to December 31, 1918, to $48,013.93; for the year 1919, $886,611.40; for the period from January 1, 1920, to June 30, 1920, $462,860.48; making total additions of $1,397,485.81. I then added materials and supplies at the average for the year 1920, amounting to $585,455.02, and I further added working cash capital at an amount equal to about one month's operating expenses of the year 1920, amounting to $300,334.34; those two items totaling $885,789.36, and making a grand total as of July 1, 1920, which is the mean date for the year in question, of $15,151,986.61."

Four years later, on November 23, 1925, when rates were again under examination, Mr. H. L. Masser, then in charge

the Commission indicate that determinations as to rates went on the assumption that such allocations were properly made. With the exception of interest during construction, of which special mention will be made, the effect of this long continued practice and course of action has been that the Company has been allowed in the form of [fol. 49] operating expense allowances items which it now says should have been added to capital and which it now seeks to add to capital. There is no equity in the Company's claim; and by its conduct and election it has created a quasi estoppel against now seeking to gain advantage by repudiating its own books and records as well as its

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of the operation of the Company's gas department, testified as follows:

"Mr. Overton:

Q. Mr. Masser, taking up this exhibit at section 4, which, I believe, deals with fixed capital of the corporation, in developing your table showing the fixed capital of the corporation, you used—did you use the production cost, actual cost of the corporation on its books and records of the physical component parts of the property of the corporation?

"A. I did, except for lands, wherein we used the present value of lands as prepared by an appraisal at this time.

"Q. So that with respect to the depreciable part of the property it does represent actual cost?

"A. Yes, actual book figures.

"Q. Taking as a starting point the amount determined by the Commission in 1921 in its Decision No. 9132?

"A. That is correct.

"Q. Then adding to that the actual cost of net additions and betterments to property since that date?

"A. That is correct."

And later on the same day to further clarify and make definite his testimony, he testified as follows:

"Q. Now, Mr. Masser, with respect to the total fixed capital, as I understand it, these figures represent the investment or production cost of the property in question?

"A. That is correct.

"Q. That is to say, actually what was paid out by the corporation for the materials, labor, supplies, interest dur-

position repeatedly taken before this Commission. The foregoing observations are not entirely applicable to the overhead expense of interest during construction. That [fol. 50] when not charged to capital, was charged to the income accounts and did not get into operating expense. The Company's course in this was somewhat erratic. For a few years none was charged to capital. In fairness, the rate base should be increased by the difference between interest during the construction as actually incurred and the amount thereof charged to capital. This has been done.[8]

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ing construction taxes, supervision and so forth in this property?

"A. That is correct, the actual cost of building the plant."

Testifying on behalf of the Company on April 25, 1928, the same Mr. Masser again explains how he built up a rate base by adding book additions and betterments to the bases previously established by the Commission, land, however, being specially appraised and included at its then value. And Mr. Masser was under no misunderstanding respecting the Commission's accepting and acting upon the Company's book figures, for he testified:

"Page 186, Table 135, sets forth a detail of gas department capital which is based primarily on this Commission's finding and decisions in the preceding rate case, being Decision No. 17830. It goes back to a period six months earlier than the date set forth in the Commission's decision so as to check the figures as of January 1, 1926. Those figures were submitted in evidence in the former case and were used by the Commission in its decision."

8. The record is not clear as to just what allowance should be made Mr. Wehe's study based upon the period 1921 to 1929 indicated proper interest during construction cost of 1.75 percent. Interest during construction was included in the rate base first fixed by the Commission for 1916 and upon which succeeding bases have been built. From 1916 to 1921 the Company, though definitely advised that this was a proper capital charge, did not so make it. In 1921, however, it commenced charging interest to capital. For the purposes of this proceeding there has been added the sum of $155,000. to the 1928 and 1929 base, which is estimated to be ample to cover this item.

Working Cash Capital and Materials and Supplies:

An allowance has been made for working cash capital and materials and supplies in accordance with the policies customarily followed by the Commission in dealing with the rates of other utilities, for the year 1930, $645,000, being included for the former and $450,000, for the latter. These allowances are deemed to be adequate. The allowance for working cash capital differs from the Company's claim in this case principally in that it is based upon the cost rather than the retail value of the service which at all times has been rendered, but on account of the lag in monthly meter readings and collections has not been paid for by consumers. The allowance for materials and supplies is based upon the amount currently carried, with allowance made for a proportion of these held for con- [fol. 51] struction purposes and against which the Company charges interest during construction.

Consumers' Advances:

Principally to protect the majority of consumers against increases in rates that would ultimately result from comparatively large investments in non-remunerative extensions, the Commission has approved rules for this Company requiring that part of the cost of such extensions shall be advanced to the utility without interest by the individuals benefited. Manifestly, if the utility is allowed a return on the total investment in such extensions the purpose of this rule will be largely defeated. The practice of the Commission has been to deduct the amount of such advances. However, the Company, notwithstanding the many advantages of a continuance of this rule, has seen fit to insist upon its right to a return upon the money thus advanced. Under these circumstances consumers' advances have not been deducted to obtain a rate base figure. The logical corollary of this treatment of this item, thus made at the insistence of the Company, is to modify the rule so as to require such advances to be returned with interest. The order herein will direct such modification.

Generating Plants:

No deduction is made on account of the Company's artificial generating plants and equipment being rendered un-

necessary by the introduction of natural gas. There can be no question that money invested in these was invested prudently and in good faith. When made, at least, the investment was a proper and necessary one. The theory of the basis of testing rates here under consideration contemplates protection of investments thus made. Were the cost of these plants deducted from the base it would be necessary [fol. 52] to provide for its amortization. The City's setup provides for their amortization over a longer period of time than their normal life expectancy upon which current depreciation expense is calculated. A shorter and more logical amortization period would substantially change the result. While the evidence adduced by the City in respect to these plants presents a serious question as to whether all of the investment they represent should be continued in the rate base, it is not established with sufficient definiteness that the elimination of the whole or a part of the investment would be fair to the Company, or to the interest of the consumers. A somewhat different situation arises in connection with the Company's claims to the reproduction value of these plants. This is treated under Part III.

Operating Revenue:

While the formulas for translating revenue to normal temperature conditions vary slightly, the one used by the Company's Mr. Masser is here employed. The year 1930 is in many respects an abnormal year. Not only have the temperatures been higher than normal but the business depression has had an effect upon sales. Various revenue estimates were presented for that year. The one set out in the table is that of the Company's Vice-President, Mr. Masser, who is the responsible officer in charge of gas operations, changed only to reflect normal temperatures throughout the entire year.

Operating Expenses:

Production expense for 1930, the largest item of which is the cost of purchased gas, is that estimated by the Company, except that the present authorized rate for gas from Southern California Gas Company is used instead of a [fol. 53] higher charge which it was claimed might be anticipated and total requirements for gas is adjusted to a year

of normal temperature. Other operating expenses for 1930 for distribution, commercial, new business and general expense, except for Pacific Lighting Corporation's fee, are those estimated by the Company.[9] Mr. Wehe, of the Commission's staff, made a very careful study of the depreciation allowance proper to be made, involving both an inspection of the physical property and a detailed study of the Company's actual experience. This Company is of sufficient age so that its experience is an important guide to the correct determination of the amount of annual charge necessary to meet recurring depreciation expense. Mr. Wehe's exhaustive study makes it plain that the allowance heretofore made, and which the Company claims, is larger than [fol. 54] necessary. His figure, adjusted to cover average additions and betterments for 1930 and adjusted to plant as it existed in 1928 and 1929, has been used.

Pacific Lighting Corporation Fee:

Commencing in 1929 the Company has been paying to the Pacific Lighting Corporation, the owner of all of its com-

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9. For the operating expense for 1930, except for cost of purchased gas and the Pacific Lighting Corporation's fee, depreciation, taxes and uncollectible bills the Company estimated $3,571,696. Mr. Spelce, an engineer of the Commission, made estimates of reasonable expenses for these aggregating but $3,031,603, as appears more fully from the following table:

Operating Expenses for 1930 as Estimated by Masser and Spelce

	Masser	Spelce
Production other than cost of gas	$444,812	$491,563
Distribution and transmission	1,123,322	858,020
Commercial	884,552	904,520
New Business	114,003	109,500
General	1,005,007	668,000
Total of these	$3,571,696	$3,031,603

The Company has recently shifted certain items of expense heretofore included in production to distribution. Mr. Masser followed this new classification. Otherwise his production expense as shown in the table would have exceeded Mr. Spelce's, while his distribution expense would not have shown the same margin of difference.

mon stock, an annual fee of $120,000., of which $80,000. was charged to the gas department in the year 1929, and a substantially similar amount in 1930. This charge is eliminated in the above table from the operating costs in both years. Mr. Day, the President of the Company, sought to justify the payment of such fee largely upon the theory that he felt the need of advice in respect to major company policies and wished to be free to consult with officers of the Pacific Lighting Corporation and its legal staff in respect thereto. He has consulted, he testified, chiefly with C. O. G. Miller and R. W. Miller, both of whom were and are directors also of Los Angeles Gas & Electric Corporation. As to services rendered by attorneys of Pacific Lighting Corporation, allowances for legal expense appear in considerable amount in the operating expenses stated in Table II. The record does not show that any services were rendered by Pacific Lighting Corporation, as claimed, during this period in respect to financing or in respect to operation, nor does it show that the payment of the fee resulted, as claimed, in a saving in general officers' salaries. In fact, the fee was coincident with substantial increases in officers' salaries. The payment of such a fee to the holding corporation made for the first time in 1929, does not find sufficient justification in the record to warrant its inclusion in the operating expenses of the Company.

[fol. 55] Return:

Table II, without further adjustments, indicates that the present rates have been at a level to yield the Company on the average for this period a return of 9.7 percent.[10] This represents an earning level higher than heretofore deemed reasonable in respect to this or to other comparable utilities.

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10. It is interesting to note the effect on the rate of return were the Company's claim as to overhead allowances recognized to the extent of allowing overheads of 11.25 percent. This, on the basis of Table II, would mean an increase in rate base for 1930 of approximately $2,750,000, and an increase in annual depreciation expense of approximately $50,000. The weighted average return for the three year period would be reduced to 9.2 percent.

Part II

The Company sharply challenges the propriety of the Commission fixing rates upon the basis heretofore followed. Estimated replacement cost rather than investment, it insists, is what it is entitled to earn a return upon; and by reproduction cost new estimates of value, with large overheads, claims of value for the cost of financing, promoters' profits and going concern, all fabricated about a theoretical reconstruction program, it has built up an asserted fair value, upon which even a very low return would call for rates substantially in excess of those now in effect. No increase, however, is requested.

Rate Base Claimed:

The rate base or value thus erected aggregates the somewhat staggering figure of $95,767,351. It is made up as follows, appropriate changes being made in the overheads (except as some overheads are in item 9), form of exhibits [fol. 56] 32 and 50 to illustrate the various major items going to constitute th total:

1. Organization and Franchises	(Ex. 32)	$831,781
2. Gas Production Capital	(Ex. 32)	20,819,402
3. Gas Distribution Capital	(Ex. 32)	51,412,932
4. General	" "	4,522,585
5. Cash Working Capital	" "	2,333,850
6. Materials and Supplies	" "	612,735
7. Cost of Financing	" "	5,921,470
8. Promoters' Remuneration	" "	2,500,000
9. Additions and Betterments for 1930	(Ex. 50)	1,054,255
10. Going Concern Value	" "	9,228,667
Total		$99,237,677
11. Less Accrued Depreciation	(Ex. 32)	3,470,326
		$95,767,351

Items (2), (3) and (4) represent the asserted value of the physical plant (before deduction for accrued depreciation) less additions and betterments for 1930. It is interesting to ascertain upon the Company's own basis how much of this is for direct and indirect labor and material costs ex-

clusive of so-called overhead allowances. The Company in these figures included overheads at 24.27 percent, applying this to land as well as to the structural properties. Making deduction for the item of overhead reduces the total for these three items from $76,754,919 to $61,764,640. Adding to the figure of $61,764,640 Items (5), (6) and (9) gives $65,765,480 as the total claimed reproduction cost of the [fol. 57] property, exclusive of organization expenses and other intangibles amounting in the aggregate to $33,472,-202, a sum equal to more than 50 percent of the claimed direct replacement cost of the physical property. Again, from the grand total claimed value undepreciated of $99,-237,677 the Company deducts but $3,470,326 for accrued and realized depreciation, or less than 3½ percent, although the physical plant has been built up over a period of many years and although the Company claims over one-third of this amount as an annual contribution to a depreciation reserve.[11]

In addition to actual cost and historical cost estimates, to which reference has been made in Part I, there were made estimates of cost on the current price level basis, both undepreciated and depreciated, as well as various so-called [fol. 58] reproduction cost new and reproduction cost new less depreciation estimates, the estimates varying widely in result according to the particular assumptions upon which grounded or particular method or theory employed. Table III lists the more important of these, the valuations being as of December 31, 1929 and covering only the usual capital accounts. Material and supplies, working cash capital and various claimed intangibles are not included. Current price level estimates proceeded upon the assumption that the property was put together historically but that

11. Another striking illustration of the effect of the Company's methods is found in a colloquy between Mr. Guillou, of the Commission's staff, and Mr. Luick, the Company's witness. By deductions from both Mr. Luick's historical and reproduction cost appraisals for organization, land and overheads it was developed that the difference between the two because of change in price levels was approximately $5,400,000. Then follows:

"Q. Now then, if you will take your total historical appraisal of $67,507,000 and deduct that from the total repro-

during its entire life prices had been those now current and that actual cost, with this adjustment for change in price level, was a reasonable and proper measure of value. Reproduction new estimates went upon the theory that value can best be measured by theoretically reproducing the property under an assumed reconstruction program. Some of the differences which appear in these estimates are due to a relatively small difference in the value placed upon land. Others are explainable by minor differences in practice in applying prices. The large differences, however, find their explanation in the varying assumptions and the results which follow these as they are reflected in overhead allowances, estimated difficulty factor costs and the like. The wide variances in accrued depreciation figures find their explanation in the diverse theories or assumptions upon which based and from which the results flow. Curiously enough, the effect of change in price level is one of the least important factors contributing to many of the results expressed, the extreme range of the effect given to this running from $3,086,000 to $5,900,000, or, expressed in percentage on actual historical cost, from 5.6 percent to [fol. 59] 10.6 percent. Even this range is lessened when certain factors appearing perhaps in one estimate and not in another are taken into account.

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duction appraisal of $85,484,000 I get a difference of approximately $18,000,000.

"A. That is correct.

"Q. Now, of that difference of $18,000,000 approximately $5,400,000 has been accounted for as the difference in the price level of the direct labor and the actual material?

"A. Yes."

And later:

"Q. So that of this difference in the two appraisals of about $18,000,000, why, something over—put it the other way—something less than five and a half million is attributable to price levels and approximately twelve and a half million is attributable to these difficulties that are inherent in a reproduction on a wholesale scale?

"A. Exactly. The cost of reconstructing the property as of January 1, 1930, as against the historical reproduction cost."

Table III

Partial Tabulation of Valuation Estimates

Valuation as of December 31, 1929

	Undepreciated	Depreciated	
		Sinking-fund basis	Straight-line basis
1. Historical Cost—Actual, land at present value	$58,687,186*	.....	.....
2. Historical Reproduction Cost—Estimate, land at present value, overheads as charged (Dufour).	58,399,353	.....	.....
3. Historical Reproduction Cost—Estimate, land at present value, overheads at 11.25% (Dufour).	61,019,622	.....	.....
4. Historical Reproduction Cost—Estimate, land at present value, overheads of 14.48% (Luick).	63,413,246	.....	.....
5. Current Price Level—Prices as of June 15, 1930, but excluding Difficulty Factor, overheads on basis charged, (Dufour-Wehe).	63,212,221	$55,437,354	$47,866,067
6. Same as 5, but Reproducing so-called Wrought Iron Pipe with Steel Pipe, (Dufour-Wehe)	61,668,210	54,356,546	47,170,861
7. Reproduction Cost New—overheads of 24.27% (Luick)	77,586,700	74,116,374**	.....
8. Reproduction Cost New Four Year Average Pricing Period, 22.32% overheads (Dufour-Wehe)	73,637,542	64,179,071	55,676,886
9. Same as 8, but reproducing so-called Wrought Iron Pipe with Steel Pipe, (Dufour-Wehe)	71,805,296	62,896,499	54,852,378

*Mr. Dufour in his exhibit had this at $58,578,773.
**Cost to Restore Basis.
***Items 2, 3, 5, 6, 8 and 9 contain non-operative land in the amount of $192,203.

[fol. 60] There is one other estimate of value to which reference may be made. In the rate case affecting this Company, which culminated in the decision and order reported in 32 C. R. C. 379, Mr. R. U. Fitting, Valuation Engineer of the Company estimated the reproduction new value of the Company's gas property as of January 1, 1928, to be $64,363,650. This estimate for January 1, 1928, is comparable to Mr. Luick's estimate for December 31, 1929, of $77,586,700. Additions and betterments during 1928 and 1929 did not exceed $2,750,000, in round figures.

Results such as heretofore indicated and as expressed in the table necessarily draw into question the soundness of the methods, theories and assumptions leading up to them. It is one thing to attempt in a sane and reasonable way to estimate and give effect to changes in prices. It is quite another matter, because there is a change in price levels to devise and utilize formulas and methods for measuring

its effect, which result in values and claims of value far in excess of what the property would have cost if current prices had prevailed during its entire life.

Except for realized depreciation, "reasonable cost," as said by the court in McCardle v. Indianapolis Water Co., 272 U. S. 400, "is good evidence of * * * value at the time of the construction. And such actual cost will continue fairly well to measure the amount to be attributed to the physical elements of the property so long as there is no change in the level of applicable prices."

Regulatory bodies, such as this Commission, naturally prefer to deal with actualities rather than theories and assumptions. Actual cost may be determined with a high degree of precision; and the effect upon such actual cost of [fol. 61] the simple and single assumption that current prices prevailed during the life of the property may likewise be determined with a definiteness sufficient for the purposes of measuring the effect of higher price levels. Cost with adjustments for changes in price level and allowance for realized depreciation should be and is, for the purposes of this part, taken as a dominent consideration in arriving at a current value of the property here involved. It is deemed a much simpler, safer and more dependable guide than estimates based upon rebuilding the property under a hypothetical construction program under conditions which do not and could not reasonably exist and with farfetched assumptions which make possible almost any result desired by their designer.

Going Concern Value:

The Company claims $9,228,667, as going concern value, based largely upon the testimony of Col. Alten S. Miller.[12] This claim is associated with the Company's reproduction new valuation and is built up on theories and methods analogous to those employed in respect to the structural properties. Just as these theories and methods lead to extreme results when applied to plant, they lead to this large figure

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12. Estimates and claims of going concern value of the Company have steadily grown in amount. In 1916 and 1917 the claim and estimate was $1,000,000 (13 C. R. C. 724). In 1926 the claim had increased to $5,000,000 (29 C. R. C. 165).

when it is sought to measure the cost of attaching the business under a theoretical reconstruction program. Under the methods employed by Col. Miller the results vary widely according to the assumptions respecting this pro- [fol. 62] gram. Indeed, it may be said that by altering the assumptions, particularly those as to the rate at which business is attached, almost any desired result may be obtained. A careful analysis of Col. Miller's exhibit and testimony makes it plain that in his total figure there is contained a very substantial sum on account of assumed early losses.

Were going concern to be treated as an independent item of value, it should be measured with due regard to actualities rather than upon theories and assumptions such as employed by Col. Miller. And it would seem that what it did cost this Company to attach its business is a far more reliable guide than an estimate of what it might cost under a theoretical reconstruction program. By the prescribed accounting rules all costs incident to attaching business are required to find lodgment in New Business Expense. Col. Miller's position in essence is an attack upon the classification of New Business Expense as an operating item, his line of reasoning inferring that this expense should have been added to capital year by year. Were new business expense to be added to capital the corollary would be its elimination from operating expense. No very appreciable change in result would follow from allowing a reasonable amount in rate base to represent the cost of attaching the business (following largely Col. Miller's theory but reducing theory [fol. 63] to actuality) and at the same time disallowing New Business Expense in operation.[13]

It is true that Col. Miller includes in his total figure $506,789, as "cost of organizing property and personnel" but he does not attempt to explain how this figure is arrived at. The actual cost of building up the personnel and organizing

13. Had new business expense been accounted for as a capital item capital would have been augmented in round figures by the sum of $1,358,000, during the period 1913 to 1929, inclusive, or at the rate of $5.42 per independent active meter. At the close of 1929 the Company had 346,000 meters, which at this average cost would represent in round figures a total cost of $1,875,000. New business expense as incurred ranged from $109,000 to $114,000 a year in recent years.

the property has of course, under accounting procedure and Commission practice, been included in current operating expense, and if viewed in the light of capital expenditure, just as in the case of the cost of attaching the business, has been taken care of and in effect amortized year by year as incurred.

Substance rather than form is to be considered. So viewed, this Commission does allow for the so-called intangible going concern value by treating its cost as a current operating expense.

Cost of Financing and Promoters' Profits:

These intangible items as claimed by the Company are rejected as too hypothetical and far removed from actuality to properly find lodgment in a rate base. The sum of $415,734 is included in the historical rate base for organization. The uniform system of accounts provides that there should be entered under this head, in addition to fees paid for incorporation, "all office and other expenditures incident to organizing the corporation or other enterprise and putting [fol. 64] it in readiness to do business." This includes "cost of preparing and distributing prospectuses, cost of soliciting subscriptions for stock, cash fees paid to promoters and the actual cash value at the time of organization of securities paid to promoters for their services * * * special counsel fees * * * ; also costs incident to * * * negotiation and issue of stock * * * "

Allowance for organization in the current price level appraisement was not stepped up. It should be raised somewhat to adequately care for possible higher costs because of the current level of prices.

Accrued Depreciation:

The amount of the accrued depreciation in the property is greatly in excess of Mr. Luick's figure of $3,470,326.[14]

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14. The depreciation reserve on December 31, 1929 was $9,350,689, as shown by the Company's books (including 72.5 percent of the General Capital Reserve).

Mr. Luick's views on accrued depreciation are illustrated by his testimony respecting depreciation in distribution mains and automobiles. As to the former, his exhibit No. 35 shows that he made no deduction on over 86 percent of

It is not less than $7,650,000. The record clearly shows that this result, which was testified to by Mr. Wehe, was arrived [fol. 65] at only after an exceedingly careful and detailed study involving a physical inspection of the property and analysis of Company records. In the translation of the results of these physical inspections and analysis of past performance the record further shows that the present age, the expected future life, the present operating costs in respect to maintenance, the interest and depreciation expense to keep these properties in service and other factors were all considered.[15]

Fair Value:

Subject to deduction for accrued and realized depreciation in a sum of approximately $7,650,000, the fair value of the property here involved as a going property with business attached, giving full effect to the current level of prices and allowing for any intangible elements of value

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the steel-wrought iron mains. The record shows these mains to have been in service a considerable time and further that there actually existed a physical deterioration.

The automotive equipment of the Company is not new as shown by the priced inventory and as indicated by the Company's depreciation reserve of over 90 percent of the book costs. Mr. Luick's theory of taking an old Model T Ford, for example, and by the expenditure of relatively small amounts for tires, painting and general overhaul, making it the equivalent in value of a new car—even from the point of view of service alone, is contrary to known facts and conditions. In this particular instance it was deemed to be the equal of a new Model A Ford, for the Company used the substitute theory in pricing these old cars. It is apparent that the application of Mr. Luick's service theory (called by him cost to restore theory) of depreciation gives results which cannot be accepted.

15. It is interesting to note that Mr. Wehe's estimate of accrued depreciation is less than that made in 1926 by Mr. Masser, Vice-President of the Company and in charge of Gas Operations. Testifying for the Company then, he expressed the opinion that the condition percent of the depreciable property was slightly less than 86 percent, the accrued depreciation being $9,275,688.

not fully cared for in the usual and current operating expense allowances but excluding various built up claims of value incident to a reproduction of the property under an assumed reconstruction program as too uncertain and hypothetical to enter into a rate base figure, did not for the year 1928, using round figures, exceed $62,500,000, and for the year 1929 $64,000,000, and for the year 1930 does not exceed $65,500,000, which figures, for the purposes hereof, are spoken of as rate base. These figures include the allowances for additions and betterments, working capital and materials and supplies corresponding to those included in the rate bases set out in Table II.

[fol. 66] Although depreciation is thus treated as a deductible item to arrive at fair value, operating results under the so-called fair value theory may best be illustrated by using undepreciated fair value (if such an expression be permitted) in making an operative set-up comparable with that contained in Table II. Should a depreciated rate base (fair value) be used the depreciation annuity would have to be computed only for the expected life of the property and would be more than an annuity computed on the basis of age plus expected life. In brief, whole the base upon which the return would be figured would be less, the depreciation annuity would be greater. The lower the condition percent of the physical property the higher is the depreciation annuity expense. Indeed under the form of operative set-ups, with the method of depreciation expense accounting customarily used, and used here for the purpose of this part, the amount of the accrued depreciation is of theoretical rather than actual importance. The only figure in the record for depreciation annuity expense which could be used with a depreciated base or fair value is that of Mr. Luick of $1,300,000, and it is very doubtful if the use of this figure would indicate a fair or representative result.[16] There is in the record well supported estimates of depreciation annuity which harmonize with an unde-

16. The use of this depreciation expense estimate in lieu of that employed in Table IV, infra, and a depreciated base in lieu of the undepreciated base, shows a return for 1930 of 9.6 per cent as compared with that of 8.8 per cent shown in the Table.

preciated base and the use of which with such a base will give a correct indication of operative results and return.

[fol. 67] Operative Results on Fair Value Basis:

Table IV indicates operative results for 1928, 1929 and 1930, being comparable to Table II. Revenue is the same in each as is also operating expense, except as adjusted to conform to the higher bases as in the case particularly in respect to the depreciation annuity. The rate bases there indicated are those found above and like the bases in Table II do not reflect any deduction for accrued depreciation.

Table IV

Adjusted Operating Results of Gas Department Los Angeles Gas and Electric Corporation for the Years 1928, 1929, and 1930, Fair Value Basis.

	1928	1929	1930 (est.)
Operating Revenue	$14,959,000	$15,989,000	$16,415,000
Operating Expenses:			
Production	$4,597,000	$4,617,000	$4,612,000
Transmission	1,000	6,000	.....
Distribution	847,000	780,000	1,123,000
Commercial	829,000	889,000	885,000
New Business	112,000	110,000	114,000
General	701,000	720,000	1,005,000
Sub-total	$7,087,000	$7,122,000	$7,739,000
Depreciation	$1,026,000	$1,049,000	$1,072,000
Taxes	1,515,000	1,606,000	1,637,000
Uncollectible Bills	130,000	180,000	182,000
Sub-total	$2,671,000	$2,835,000	$2,891,000
Total Operating Charges	$9,758,000	$9,957,000	$10,630,000
Net for Return	5,201,000	6,032,000	5,785,000
Rate Base	62,500,000	64,000,000	65,500,000
Rate of Return	8.3%	9.4%	8.8%
Weighted Average Return for 3 year period	.....	8.9%	.....

[fol. 68]

Part III

It is apparent from the results indicated in Parts I and II that the rates of the Company should be lowered and this presents two questions:

1. By what amount should the revenue and rates be reduced?

2. What form of rates should be fixed to accomplish this reduction?

Amount of Reduction:

A careful consideration of the present earning position of the Company, as indicated by Tables II and IV, and of all other pertinent factors, some of which are subsequently discussed, leads to the conclusion that rates should be fixed which in the future will lower the Company's domestic and commercial gas revenue by approximately 9 percent.

Such a reduction will have certain effects upon the amount of taxes which the Company will be called upon to accrue, currently as to the Federal tax and in the ensuing year as to the State tax. This is illustrated by the following Table V, which corresponds with Tables II and IV except that it assumes rates were in effect during the years 1928, 1929 and 1930 yielding a domestic and commercial revenue 9 percent less than the yield of the present rates. The Table further illustrates the earning position of the Company under such a reduction.

[fol. 69]

Table No. V

Adjusted Operating Results for Gas Department of Los Angeles Gas & Electric Corporation, 1928-1930, on Both Historical Cost Basis and Fair Value Basis, Assuming 9% Reduction in Domestic and Commercial Revenue

	1928		1929		1930, Est.	
	Historical basis	Fair-value basis	Historical basis	Fair-value basis	Historical basis	Fair-value basis
Operating Revenue	$13,669,000	$13,669,000	$14,626,000	$14,626,000	$15,003,000	$15,003,000
Operating Expenses:						
Production	4,597,000	4,597,000	4,617,000	4,617,000	4,612,000	4,612,000
Transmission	1,000	1,000	6,000	6,000		
Distribution	847,000	847,000	780,000	780,000	1,123,000	1,123,000
Commercial	829,000	829,000	889,000	889,000	885,000	885,000
New Business	112,000	112,000	110,000	110,000	114,000	114,000
General	701,000	701,000	720,000	720,000	1,005,000	1,005,000
Subtotal	7,087,000	7,087,000	7,122,000	7,122,000	7,739,000	7,739,000
Depreciation	943,000	1,026,000	967,000	1,049,000	990,000	1,072,000
Taxes	1,371,000	1,362,000	1,382,000	1,373,000	1,404,000	1,395,000
Uncollectibles	130,000	130,000	180,000	180,000	182,000	182,000
Subtotal	2,444,000	2,518,000	2,529,000	2,602,000	2,576,000	2,649,000
Total Operating Charges	9,531,000	9,605,000	9,651,000	9,724,000	10,315,000	10,388,000
Net for Return	$4,138,000	$4,064,000	$4,975,000	$4,902,000	$4,688,000	$4,615,000
Rate Base	$57,839,000	$62,500,000	$59,226,000	$64,000,000	$60,704,000	$65,500,000
Rate of Return	7.2%	6.5%	8.4%	7.7%	7.7%	7.0%

Weighted Average return for three-year period—Historical Basis 7.8%.
Weighted Average return for three-year period—Fair Value Basis 7.1%.

[fol. 70] The various operating setups (Tables II, IV and V) have not been taken or used as a sole criterion or guide in determining the earnings and rates which in the future will be just and reasonable. Certain results there indicated clearly are subject to qualification, and there are other factors that have been taken into consideration in reaching a conclusion.

1928-1930 Operating Results:

The operating results indicated in these Tables are not entirely representative. It will be observed from the Tables that normal temperature revenue increase for 1929 over 1928 was nearly twice the increase estimated for 1930 over 1929. Investment or fair value increase, as the case may be, was about the same in the two years. Yet it will be observed that the general operating expenses in 1929 increased over those of 1928 by less than $50,000., although more natural gas was purchased in the latter year, while in 1930, with a lesser corresponding increase in this item of expense, there is an estimated increase in total expense of over $600,000. The year 1928 as to operating expense was somewhat out of line because the Company was in the transition period from the service of a mixed gas to a straight natural gas. 1929 was a more normal year. The sharp increase in expense as estimated for 1930 is in part explainable. There are included in the figures used certain large items of a somewhat unusual and non-recurring nature. $159,867. in general expense is for the cost of appraisal and regulatory commission expense. The average annual cost for these items for 1921 to 1930, inclusive, was $40,500. $159,867. exceeds by more than 50 percent the expense to the Company for these items in any year in its [fol. 71] history. If the past experience of the Company means anything it is over $100,000. in excess of what may be expected in the future. $139,320. is included for legal expense, within which is what is claimed to be the gas department's share of the expense of a pending litigation, in which the City of Los Angeles seeks to enjoin the Company from conducting a power business as distinguished from a lighting business under the franchise extended it by Sec. 19 of Art. XI of the Constitution prior to its amendment in 1911. It is asserted that if the City is successful in this the determination will apply to the right

of the Company to operate a gas business except for illuminating purposes. It is not clear that this expense will continue, nor is it at all clear that the allocation of such a large proportion of it to the gas department can be justified. General legal expense for the period 1926 to 1929, inclusive, was $30,600. a year.

Again, as indicated in footnote No. 9, the Company estimates expenses for the year 1930 on a much more liberal basis than that adopted by the engineer of the Commission. In brief, the expenses indicated in these tables for 1930 cannot be taken, without qualification, as a guide to what expenses in the future will be.

Factors Affecting Rate Base:

The fair value rate base figures are subject to some adverse effect by factors which have not been taken into account in arriving at them and which are not easily susceptible to admeasurement in dollars and cents but which should be adverted to as entitled to consideration with the many other factors leading to the conclusions reached as to the reasonable earning basis for the future.

[fol. 72] The evidence convincingly and satisfactorily establishes the existence of a natural gas supply adequate for years to come. This presents a serious question as how the artificial gas plants of the Company should be treated. Are they all necessary as a standby or would a part of them be adequate for this purpose? Under the basis of fixing rates heretofore followed by the Commission, which essentially is to provide a fair return on money prudently invested, if any part of these were eliminated as operative property it would follow that provision would be made for the amortization of the money invested in them. In Part I some consideration was given to the matter of these plants and the conclusion reached that the evidence under all of the circumstances did not justify their retirement and amortization at this time. A different situation is presented when the Company demands a return on the present fair value of its property, for the somewhat doubtful need of all of these plants does have an appreciable adverse

bearing upon their value, as included in the rate base figures in Tables IV and V.[17]

The Company claims that prior to 1913 a considerable amount of pure wrought iron main was installed. Since 1913 it has used steel mains. In the figures in Tables IV and V are included the cost of all of the claimed wrought [fol. 73] iron mains at current prices. Had an equivalent amount of steel mains been included at present prices the figures would be approximately $1,500,000 less and the annual depreciation annuity would be decreased by $25,000, in round figures. The evidence is not at all convincing as to the amount of pure wrought iron main in the system, nor is it at all clear that wrought iron, although much more costly than steel, has any real superiority.

Litigation is in progress affecting the electric franchise of the Company in Los Angeles, the City having attacked its right under the so-called constitutional franchise, "to use the public streets for the distribution of electric energy for purposes other than lighting." As claimed by the Company in its Ex. 50 "while the action in question involves only the service of electric energy, it is only reasonable that the gas department should sustain its proportion of the expense of this litigation, since its franchise right is derived from the same constitutional provision." This situation would tend to minimize any intangible values included in the figures used in Table IV.

Cost of Money:

The present actual annual cost to the Company for its bond and preferred stock money is 6.17 percent. How-

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17. The City's presentation was based upon the elimination of all of the plants. Some of the property included is now used in the distribution of natural gas. The record does not contain satisfactory figures indicative of the effect of eliminating the older plants, numbers 1 and 2. However, the effect of their elimination may be approximated. The fair value figure here used would be reduced by from $2,750,000 to $3,250,000. Operating expense would be reduced from $175,000 to $225,000 a year. Very roughly, if such eliminations were made the Company's return as indicated in Table IV would be higher by around one-half of one percent.

ever, just as the assumption that the Company's property was constructed at prices now current increases the actual cost figure, so a similar assumption that the Company was financed on the basis of current money cost or value would reduce the figure of 6.17 percent to 5.46 percent. If the Company is to derive the advantage due to economic changes which raise the value of its property over its actual cost, it should at the same time in fairness ex- [fol. 74] pect to suffer any detriment due to economic changes which may lessen the cost or earning ability of money.

Business Depression:

The present business depression unquestionably has had an adverse effect upon the Company's growth and revenue. It is reflected in revenue figures for 1929 and 1930. For the year 1930, as heretofore pointed out, the various revenue figures used are those of Mr. Masser based upon actual sales for the first five months of the year and estimated sales for the remaining months, the actual sales, however, having been here adjusted to reflect normal temperatures. Since the submission of this case the monthly reports of the Company filed with the Commission show the actual sales for three additional months. Not only do sales show a slight falling off from those estimated for these months, but these monthly reports also show a lesser growth in new meters than was estimated. There is nothing in these reports or in the record to indicate that on a normal temperature basis the Company's business is not growing. The record, however, does indicate that its rate of increase or growth has been perceptibly slowed up. The situation here adverted to calls for and has received careful consideration as showing that the revenue estimates used for 1930 may not be entirely representative, just as the greatly increased operating expense figures used for the year are not entirely representative.

Actual Earning Position of Company:

Not only has the business depression had an adverse effect upon this Company's current earning position, but there are two other factors which have accentuated this. Operating expense for 1930 has shown a startlingly large

[fol. 75] increase, and the winter months of 1929-30 were unusually warm ones and this has reduced the Company's sales and revenues.

This Commission does not, in fixing rates for the future, pretend to make up for past depletion in net earning because of a run of warm weather or extraordinary operating expenses, as it does not in this way seek to expropriate past earnings enjoyed in a larger amount than may appear reasonable. In prescribing rates for the future it must almost necessarily go on the assumption that temperatures will be normal. Operating expense also must be assumed to be on a more nearly normal basis than in 1930. Existing business conditions, on the other hand, should be and are given consideration and weight.

Other Factors:

There are other factors of which brief mention may appropriately be made. Nothwithstanding the effect of the depression upon growth of business, this Company's business is growing. With growth, the tendency is for the rate of return to increase. Added operating expense and the earning on added investment or property with growth is usually less than the increased revenue. Again, lower rates tend to stimulate sales.[18] Again, while present prices

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18. A reduction in rates, it was recognized, as testified by Mr. Masser, "unquestionably does stimulate load to some degree" and unquestionably has some effect on the percentage of the increase in sales, the extent of which effect he was unable to state. To get the best result from a reduction in rates would, in his opinion, call for capitalizing its effect by advertising. It is somewhat significant here that the business depression apparently has not had the same effect in slowing up increased sales in the electrical department of the Company's business as it has in its gas department. It is not an unreasonable deduction that the reduced electric rates in effect in 1930 have contributed to some extent to this result. The Company in its estimate of operating expenses for 1930 includes additional amounts for advertising. This is not disturbed. The Company will thus be in a position to feature a reduction in rates in a campaign to increase sales.

[fol. 76] applied to the structural property produces a slightly higher figure than the actual historical cost, even though present price levels continue without change, the gradual retirement of the older property in the plant—property installed during the period of low prices—means that the difference between the actual cost of the structural property and what it would have cost under current prices will grow less and less and soon disappear entirely.

Earning Position under Rates Fixed:

The rates here fixed will place this Company in an earning position at lease as good as, and probably slightly better than, that which this Commission intended it should enjoy when its rates were reduced in the latter part of 1928 (32 C. R. C. 379). A return or earning position on such basis and as now found to be reasonable is consonant with that allowed other comparable utilities and has proven sufficiently liberal to attract large amounts of capital into the field of utility investment. Investors, at least, have not considered such a return or earning position to be unfair, unreasonable or unattractive to capital. The Company will be receiving a reasonable return on the fair value of its property [19] and will be able to meet its fixed [fol. 77] charges, pay its preferred stock dividends, liberal dividends on its common stock and augment its surplus.[20]

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19. This Company has constructed the bulk of its property since 1917. Much of its property was installed during a period when prices were higher than at present. The tendency is for the actual and current price level costs of its structural property to come closer and closes together. The current value of money is lower than the cost to the Company on its outstanding securities. It is apparent that rates reasonable on the basis heretofore used in respect to the rates of this Company will likewise be reasonable on the so-called fair value basis.

20. The Company's statement for the year ending August 31, 1930 filed with the Commission in compliance with the Commission's General Order No. 65, and which statement under stipulation is deemed in evidence, shows for its gas and electric departments a net profit of $4,725,780. Deducting from this $1,170,630 for dividends on the Com-

Rates:

It seems inadvisable to attempt any general re-arrangement of districts (although Altadena has requested that it be incorporated into the primary district) or to make any radical changes in the form of rates. To accomplish either of these results would in fairness call for further hearings and a consequent delay in extending to consumers the advantages of reduced rates. Under the circumstances and having in mind the importance of making the reductions effective at an early date, the reductions should take the form of a lowering of the meter rates. A some- [fol. 78] what greater reduction for the lower blocks is advisable. The rates established in the order are carefully calculated and intended to effect a reduction in the Company's gross domestic and commercial revenue of 9 percent.

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pany's preferred stock, leaves $3,555,150 for common stock or earnings at the rate of 17.77 percent on such stock, or 14.6 percent on common stock and surplus. This period felt the incidence of eight months of the reduced electric rates, the warm winter of 1929-30 with its decreased gas revenue and ten months of business depression. Also much of the increased and abnormal operating expenses occurred during this period. It is here found that the Company's annual depreciation expense for its gas department is unnecessarily large by the sum of approximately $230,000. The Company has included this amount in its operating expenses for the year ending August 31, 1930. Adding this amount and the $120,000 paid to the Pacific Lighting Corporation as an annual fee, to the $3,555,150 makes a total of $3,905,150 for the common stock and surplus. This represents 19.5 percent on the common stock and 16.1 percent on common stock and surplus combined. If the Company's gas revenue for the year ending August 31, 1930 had been nine percent less than it actually was, such nine percent being the reduction herein ordered, the Company's net profit for the common stock and surplus would have been $2,576,507, or 12.8 percent on the common stock and 10.6 percent on its common stock and surplus. (No adjustment in these figures is made on account of taxes.)

Part IV

At the risk of repetition and that there may be no misunderstanding, it may be restated that the conclusions expressed in Part III are premised on the assumption that temperature conditions in the future will be normal and that business conditions will approximate those of the year 1930 and that the gross revenue of 1931 with normal temperatures will not be less than that of 1930. It is there recognized that revenue for the year 1930 may, because of business conditions, be less than that estimated by the Company and expressed in the various tables. On the other hand, operating expense for 1930 as expressed in the tables is not at a normal figure. Any diminution in revenue is offset by the amount by which the operating expense is out of normal.

However, the Commission cannot close its eyes to the fact that the actual earning position of the Company in the year 1931, during which rates here established will be effective, may be either worse or better than it would be were these assumptions realized. A coincidence in that year of high temperatures (with correspondingly reduced sales) and added and unexpected severity of the present business depression may lessen the return anticipated by from ½ of 1% to 1%. On the other hand, a coincidence of a cold year with improved business conditions may increase the anticipated return by a corresponding amount. The degree in which these uncertain factors are present [fol. 79] and their relationship may produce actual results anywhere between these extremes.

Any device or plan by which these elements of uncertainty may be reduced obviously would be of advantage and benefit both to the utility and to its consumers. That the disturbing element of varying temperature conditions may be guarded against by the establishment of a temperature reserve is clear. This became impressed upon the Commission several years ago. In its decision affecting the rates of this Company in November, 1928, reported in 32 C. R. C. 379, the Commission said:

"It is apparent from the discussion above that gross revenues will fluctuate considerably from year to year, depending upon weather conditions, with a resulting marked effect upon yearly net revenue available for re-

turn. It would seem that the most effective method of stabilizing net revenues so that a fairly uniform return might be earned through a period of years of varying weather conditions, would be by means of a reserve set up for this purpose, similar to the contingency reserve made effective some years ago on the Southern California Edison electric system for the purpose of minimizing the yearly variations in water conditions and hence in steam generation fuel cost.

"Such a step can not be taken without cooperation from the utility involved, and we therefore suggest that these utilities give serious thought to the establishment of reserves impounding excessive yearly revenues in years of [fol. 80] low temperature conditions, and from which withdrawals could be made in years of high temperature conditions with consequent lower revenue."

The Southern California Edison Company reserve, to which reference is made in the quoted excerpt, grows out of the decision and order In re Southern California Edison Company, 19 C. R. C. 595, 922.

The Company did not see fit to move along the line of the suggestion thus made. However, since the date of that decision formulas by which sales, purchases of natural gas, and gross and net revenue may be made to reflect with substantial accuracy average or normal temperatures have been greatly refined.

While the Commission does not assume the power to direct the establishment of a reserve, it is taking the liberty of again pointing out its desirability from the standpoint of the Company, the consumers and the Commission, and, in addition, to authorize by its order a temporary optional rate under a plan which, if the Company elects to accept it, not only will lead towards the creation of such a reserve but will incidentally tend to soften the effect upon the Company of a warm year in 1931 or severer business conditions than those of 1930, and on the other hand prove of advantage of consumers if 1931 proves to be a cold year or if business conditions improve over those of 1930.

The creation of such a reserve from the standpoint of the Company would mean an earning position not subject to fluctuation because of varying temperatures; published earning statements would no longer be provocative of rate

investigations when earnings are high with a cold winter or detrimental to its financial standing when they are low because of a warm year. The existence of such a reserve [fol. 81] would be of benefit to the consumers and would make the work of the Commission easier because it would do away with the urge, ever present when rates are being fixed, to guard against hardship or embarrassment to the Company by fixing rates on the basis of a warm year with its lesser sales and revenues.

A temperature reserve should be set up so that periodically it could be drawn upon to make up for depletion in gross and net revenue due to a period of high temperature, and be augmented by gross and net revenue above normal due to a period of low temperatures and consequent increased sales. The details of making withdrawals and accretions and the formulas by which to be determined should be expressed in a stipulation by the Company, approved by the Commission.

Such a reserve should of course be started with a substantial credit. The Company could, it is believed, well afford to establish a reserve and create an adequate credit therein.

The record in this case suggests at least two possible sources from which such a credit could be created without injury to the Company. In past years there have been over-accruals of taxes, particularly in respect to the Federal tax, which, together with other tax accruals, have built the Taxes Accrued Account to $2,154,027.40 as of December 31, 1929. Included in this amount is the sum of $320,728.63, representing Federal excess accruals for years prior to 1927. Apparently this sum is free to be transferred. It is not clear from the record whether this was derived from the gas operations or electric operations. At any rate, it is in effect a Company asset.

[fol. 82] The depreciation reserve of the gas department on December 31, 1929, was $9,350,689., subject to some variation according to the basis employed in splitting the Company's total reserve. The Company's reserve has had an interesting history. It appears that about 1918 a substantial amount was transferred from the depreciation reserve to a contingency reserve and that finally nearly all of this landed as a credit to the electric reserve. Even as thus reduced, the reserve is substantially in excess of

the amount of accrued depreciation. As heretofore pointed out, the annual amounts allowed for depreciation expense have proven somewhat larger than the experience of the Company has indicated was necessary. The Company now is required to account for the entire reserve. A further consideration of its size might well lead to the conclusion that from $500,000. to $1,000,000 could, with propriety, be transferred to a temperature reserve. In this connection it is pertinent to point out that the Company is now setting up a special reserve for extraordinary hazards.

The creation of a credit by the Company in the manner pointed out, or otherwise, is for the purposes hereof, at least, assumed to be purely a matter of Company policy. Under the alternative rate plan referred to, however, provision is made for the possible establishment of a credit to the reserve adequate for its creation and operation.

This alternative plan, the acceptance of which is authorized in the order, is as follows:

1. Temporary and provisional rates for the year 1931, and until further order of the Commission, involving a [fol. 83] reduction in domestic and commercial revenue of approximately 7% to be authorized.

2. The Company to agree:

(a) To establish, effective on January 1, 1932, temperature reserve along the lines heretofore indicated, the basis of credits and debits to which to be approved by order of the Commission.

(b) To credit to such reserve any actual net earnings available for return for the year 1931 in excess of $4,650,000, in the determination of which specific operating expenses herein found to be unreasonable not to be included.

3. Jurisdiction to be retained by the Commission to make such further orders herein as may be deemed necessary and appropriate.

I recommend the following form of order:

Order

The Railroad Commission having instituted a proceeding upon its own motion inquiring into the rates, rules

and regulations of the Los Angeles Gas and Electric Corporation, and the matter having been submitted and being now ready for decision;

The Railroad Commission of the State of California hereby finds as a fact that the domestic and commercial rates for gas now being charged by Los Angeles Gas and Electric Corporation are unjust and unreasonable, and further finds as a fact that the rates now charged by said Corporation for electric energy as set forth and authorized in a supplementary order herein, Decision No. 21846, of date December 2, 1929, are just and reasonable rates.

[fol. 84] Basing its order on the foregoing findings of facts and on such other findings and statements of facts as are set forth in the opinion preceding this order, or in this order,

It is hereby ordered that Los Angeles Gas and Electric Corporation shall:

1. Charge and collect for domestic and commercial gas sales, as measured by meter readings on and after January 1, 1931, the rates set forth in Exhibit "A", which rates are herein found to be reasonable rates.

2. Charge and collect for electric energy sold the rates authorized by said interlocutory order herein.

3. File, effective on January 1, 1931, a revision of its rule No. 20, eliminating the provisions therein for a return of advances without interest, and in lieu thereof to provide for such return with interest at the rate of 6% per annum, interest to run from January 1, 1931 or from date of advance if made subsequent to said date.

Is is hereby further ordered that Los Angeles Gas and Electric Corporation, in lieu of charging the rates set out in Exhibit "A" hereof, may under the terms and conditions hereinafter specified and during the calendar year 1931 and until further order of the Commission herein charge and collect for domestic and commercial gas sales, as measured by meter readings on and after January 1, 1931, the rates set forth in Exhibit "B" hereof, which rates, under the special circumstances adverted to in the opinion and subject to the terms and conditions hereinafter specified, are found to be reasonable rates.

The foregoing optional rates herein authorized shall become effective upon the following terms and conditions and not otherwise:

[fol. 85] 1. The Company shall by stipulation agree to set up and establish, effective on January 1, 1932, a temperature reserve of the character described in Part IV of the opinion, the details of which are to be subject to approval by the Commission.

2. The Company shall by stipulation agree to credit to said temperature reserve the amount by which the net earnings of its gas department for the year 1931 available for return exceeds the sum of $4,650,000, in the computation of which net revenue available for return specific operating expenses herein found to be unreasonable not to be included as an operating expense.

3. Such rates shall be deemed to be temporary or trial rates effective for the year 1931 and until further order of the Commission.

4. This proceeding shall be kept open for such further orders as may be proper.

5. The Company's election to accept the optional rates herein provided for shall be made at least five days prior to January 1, 1931.

Except as otherwise provided, the effective date of this order shall be twenty (20) days from and after the date hereof.

The foregoing opinion and order are hereby approved and ordered filed as the opinion and order of the Railroad Commission of the State of California.

[fol. 86] Dated at San Francisco, California, this 24th day of November, 1930.

C. L. Seavey, Leon O. Whitsell, Thos. S. Louttit, W. J. Carr, Commissioners.

Certified as a true copy.

H. G. Mathewson, Secretary Railroad Commission, State of California. (Seal.)

EXHIBIT "A"

Schedule No. G-1

Domestic and Commercial Gas Service

Class of Service:

Applicable to the general domestic and commercial service of natural gas for lighting, heating, cooking and water heating, including use by apartment houses, churches, hotels, hospitals, restaurants, schools, business buildings, etc.

Territory:

Applicable to Rate District No. 1, as set forth in detail in the Preliminary Statement, comprising that territory:

1. Within the City Limits of Los Angeles as they existed May 30, 1926, except that portion of the West Coast Addition west of a southerly continuation of the westerly boundary of Buckler Addition.

2. Within the unincorporated territory in the vicinity of Sherman contiguous to Laurel Canyon, Melrose and Fairfax Additions.

[fol. 87] 3. Within the unincorporated territory west of Alameda Street and north of an easterly continuation of the southerly boundary of Watts Addition to the City of Los Angeles.

4. Within the City limits of Pasadena, South Pasadena, Alhambra, Huntington Park and Vernon.

Rate:

For continuous service for periods of one month or more:

First 300 cu. ft. or less per meter month, 80 cents.
Next 3,700 cu. ft. per meter month, 6.9 cents per 100 cu. ft.
All over 4,000 cu. ft. per meter month, 5.9 cents per 100 cu. ft.

Minimum Charge:

A minimum charge of 80 cents per meter month will be made for the first 300 cu. ft. of gas used during any one month, or fraction thereof, if service is opened and closed during any 33 day period.

Proration of Opening or Closing Gas Bills:

The minimum charge for opening or closing bills for a fraction of a month or for less than 300 cu. ft. will be prorated for the period of service in accordance with the schedule of prorated minimum charges, as set forth below:

Period of Use—Days.....	1 to 10	11 to 20	21 to 33
Minimum Use—First.....	100 c.f. or less	200 c.f. or less	300 c.f. or less.
Minimum Charge	27¢	53¢	80¢

Over Minimum Use:
at 6.9¢ per 100 c.f.; Next 1,200 c.f.; Next 2,500 c.f.; Next 3,700 c.f.
at 5.9¢ per 100c.f.; Over 1,300 c.f.; Over 2,700 c.f.; Over 4,000 c.f.

[fol. 88] Schedule No. G-2

Domestic and Commercial Gas Service

Class of Service:

Applicable to the general domestic and commercial service of natural gas for lighting, heating, cooking and water heating, including use by apartment houses, churches, hotels, hospitals, restaurants, schools, business buildings, etc.

Territory:

Applicable to Rate District No. 2, as set forth in detail in the Preliminary Statement, comprising:
All districts not included under Schedule No. G-1, namely:

1. City of San Marino.

2. City of San Gabriel.

3. City of Monterey Park.

4. City of Inglewood.

5. Culver City.

6. Unincorporated territory north, east and south of Pasadena and Alhambra.

7. Territory served east of City Limits of Huntington Park including portions of Maywood and Bell.

8. Unincorporated territory south of southerly limits of Watts Addition to City of Los Angeles.

9. Territory south and west of the City of Los Angeles including Hawthorne and that portion of West Coast Addition to the City of Los Angeles west a southerly continuation of the west boundary of Buckler Addition.

[fol. 89] Rate:

For continuous service for periods of one month or more:

First 300 cu. ft. or less per meter per month, 80 cents.

Next 3,700 cu. ft. per meter per month, 7.3 cents per 100 c. f.

All over 4,000 cu. ft. per meter per month, 6.3 cents per 100 c.f.

Minimum Charge:

A minimum charge of 80 cents per meter per month will be made for the first 300 cu. ft. of gas used during any one month, or fraction thereof, if service is opened and closed during any 33 day period.

Proration of Opening or Closing Gas Bills:

The minimum charge for opening or closing bills for a fraction of a month or for less than 300 cu. ft. will be prorated for the period of service in accordance with the schedule of prorated minimum charges, as set forth below.

Period of Use—Days.....	1 to 10	11 to 20	21 to 33
Minimum Use—First.....	100 c.f. or less	200 c.f. or less	300 c.f. or less.
Minimum Charge	27¢	53¢	80¢

Over Minimum Use:
at 7.3¢ per 100 c.f.; Next 1,200 c.f.; Next 2,500 cf.; Next 3,700 c.f.
at 6.3¢ per 100 c.f.; Over 1,300 c.f.; Over 2,700 c.f.; Over 4,000 c.f.

EXHIBIT "B"

Schedule No. G-1

Domestic and Commercial Gas Service

Class of Service:

Applicable to the general domestic and commercial service of natural gas for lighting, heating, cooking and water

[fol. 90] heating, including use by apartment houses, churches, hotels, hospitals, restaurants, schools, business buildings, etc.

Territory:

Applicable to Rate District No. 1, as set forth in detail in the Preliminary Statement, comprising that territory:

1. Within the City Limits of Los Angeles as they existed May 30, 1926, except that portion of the West Coast Addition west of a southerly continuation of the westerly boundary of Buckler Addition.

2. Within the unincorporated territory in the vicinity of Sherman contiguous to Laurel Canyon, Melrose and Fairfax Additions.

3. Within the unincorporated territory west of Alameda Street and north of an easterly continuation of the southerly boundary of Watts Addition to the City of Los Angeles.

4. Within the City Limits of Pasadena, South Pasadena, Alhambra, Huntington Park and Vernon.

Rate:

For continuous service for periods of one month or more:

First 300 cu. ft. or less per meter per month, 80 cents.

Next 3,700 cu. ft. per meter per month, 7.0 cents per 100 cu. ft.

All over 4,000 cu. ft. per meter per month, 6.2 cents per 100 cu. ft.

Minimum Charge:

A minimum charge of 80 cents per meter per month will be made for the first 300 cu. ft. of gas used during any one month, or fraction thereof, if service is opened and closed during any 33 day period.

[fol. 91] Probation of Opening or Closing Gas Bills:

The minimum charge for opening or closing bills for a fraction of a month or for less than 300 cu. ft. will be

prorated for the period of service in accordance with the schedule of prorated minimum charges, as set forth below.

Period of Use—Days.....	1 to 10	11 to 20	21 to 33
Minimum Use—First.....	100 c.f. or less	200 c.f. or less	300 c.f. or less.
Minimum Charge	27¢	53¢	80¢

Over Minimum Use:

at 7.0¢ per 100 c.f.; Next 1,200 c.f.; Next 2,500 c.f.; Next 3,700 c.f.
at 6.2¢ per 100 c.f.; Over 13,00 c.f.; Over 2,700 c.f.; Over 4,00 c.f.

Schedule No. G-2

Domestic and Commercial Gas Service

Class of Service:

Applicable to the general domestic and commercial service of natural gas for lighting, heating, cooking and water heating, including use by apartment houses, churches, hotels, hospitals, restaurants, schools, business buildings, etc.

Territory:

Applicable to Rate District No. 2, as set forth in detail in the Preliminary Statement, comprising:

All districts not included under Schedule No. G-1, namely:

1. City of San Marino.

2. City of San Gabriel.

3. City of Monterey Park.

4. City of Inglewood.

5. Culver City.

6. Unincorporated territory north, east and south of Pasadena and Alhambra.

[fol. 92] 7. Territory served east of City Limits of Huntington Park including portions of Maywood and Bell.

8. Unincorporated territory south of southerly limits of Watts Addition to City of Los Angeles.

9. Territory south and west of the City of Los Angeles including Hawthorne and that portion of West Coast Addi-

tion to the City of Los Angeles west of a southerly continuation of the west boundary of Buckler Addition.

Rate:

For continuous service for periods of one month or more:

First 300 cu. ft. or less per meter month, 80¢.
Next 3,700 cu. ft. per meter month, 7.4¢ per 100 c.f.
All over 4,000 cu. ft. per meter per month, 6.6¢ per 100 c.f.

Minimum Charge:

A minimum charge of 80¢ per meter per month will be made for the first 300 cu. ft. of gas used during any one month, or fraction thereof, if service is opened and closed during any 33 day period.

Proration of Opening or Closing Gas Bills:

The minimum charge for opening or closing bills for a fraction of a month or for less than 300 cu. ft. will be prorated for the period of service in accordance with the schedule of prorated minimum charges, as set forth below:

Period of Use—Days.....	1 to 10	11 to 20	21 to 33
Minimum Use—First.....	100 c.f. or less	200 c.f. or less	300 c.f. or less.
Minimum Charge	27¢	53¢	80¢
Minimum Charge	27¢	53¢	80¢

Over Minimum Use:

at 7.4¢ per 100 c.f.: Next 1,200 c.f.; Next 2,500 c.f.; Next 3,700 c.f.
at 6.6¢ per 100 c.f.: Over 1,300 c.f.; Over 2,700 c.f.; Over 4,000 c.f.

[fol. 93] Decoto, Commissioner, dissenting:

From the time of the institution of state regulatory bodies few utilities and regulatory bodies have had the proper conception of regulation. Regulatory bodies have advocated as their policy the adoption of a method of fixing a rate base that would bring the lowest rates to consumers. Public utilities have advocated as their policy the adoption of a method of fixing a rate base that would bring to them excessive returns. The first advocate of reproduction cost new was William Jennings Bryan representing the consumers. At the time he advocated this method it would produce the lowest rate base. He was opposed by public utili-

ties advocating the stock and bond base and the prudent investment or historical rate base, because they would be the highest.[1] Now the position of most regulatory bodies and most public utilities is completely reversed, each having executed a complete about face, regulatory commissions now advocating historical cost and utilities advocating reproduction cost new.[2] Both sides seem to have lost sight of the fact that the purpose of regulation is to procure for the consumers reasonable rates and service and at the same time secure to the utility adequate return upon the value of its property, such value being determined in accordance with the many decisions of the United States Supreme Court. From time to time the federal courts have stepped between these opposing views and have quite consistently [fol. 94] pointed out the proper method of fixing a rate base. For thirty-two years the Supreme Court of the United States has consistently adhered to the controlling principles of valuation laid down by it.[3] In spite of the fact that the pathway is now made reasonably clear by the decisions of the courts, some state commissions seem to be inclined to be a law unto themselves and persist in ignoring the law as laid down by the courts.

The California Commission has to all outward appearance been one of these. It has clung ostensibly and theoretically to the historical rate base. In reality it has given effect to the different elements mentioned by the federal courts including fair value including going value by allowing a rate of return between 8% and 8½% on historical cost. If there be added to the historical rate base an

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1. Smith vs. Ames, 169 U. S. 466.

2. For an instructive treatise on the situation and valuation in general, see "Valuation in the Supreme Court" by Alfred Evans in Vol. XVI—No. 8 of the American Bar Association Journal.

3. Smith vs. Ames, 169 U. S. 466, San Diego L. & T. Co. vs. National City, 174 U. S. 739, Stanislaus Co. vs. San Joaquin, etc., 192 U. S. 201, Wilcox vs. Consolidated Gas Co., 212 U. S. 119, Missouri ex rel. S. W. Bell Tel. Co. vs. Public Service Com., 262 U. S. 276, McCardle vs. Indpls. Water Co., 272 U. S. 400, St. Louis & O'Fallon Ry. Co. vs. U. S. et al., 279 U. S. 461.

amount between 10 and 12½%, the rate base so obtained will approximate fair value including going value. So also, if there is deducted from 10% to 12½% from a rate of return of 8% or 8½% on an historical cost rate base, it is readily seen that there is an actual return varying from 7% to 7.75% upon fair value including therein a reasonable amount for going value. With this arrangement our public utilities have been content.

During the last two years this commission has shown a tendency to cut the rate of return upon an historical rate base from between 8% and 8½% to 7%, which reduced [fol. 95] the rate of return upon a fair value bases to 6.12½% to 6.3%.[4] This is confiscation and not regulation. It cannot be expected that our public utilities will long content themselves with such a return. The result will be an appeal to the courts for proper redress. This is in effect a shirking of its responsibility by the commission and will lead to an era of regulation by the courts.

The present opinion is just another step in the direction I have pointed out and for that reason I desire to review the majority opinion pointing out its many obvious weaknesses and setting up what I believe to be proper rate bases both historical and fair value, and a proper estimate of revenue and expenditures for the next few years.

Table No. I of the majority opinion is misleading for the reason that 6.35% overheads are used and no going value whatever is allowed. If 11.25% overheads were used and a going value allowed to the extent of 10%, the average rate of return for each of the years quoted would be nearer 6% than 7.74% therein shown.

Table No. II is also misleading for the same reasons as Table No. I.

Table No. III is misleading for the reason that parts 1, 2, 5 and 6 are again based upon 6.35% overheads.

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4. Railroad Commission vs. L. A. Railway Corporation, 280 U. S. 145. In this case the refusal of this commission to grant increase in street car fares was set aside. In Decision No. 21766—App. 13795, Pac. Tel. & Tel. Co. this commission fixed rates calculated to result in a return of 7% on an historical base. For the first six months of 1930, the actual return was 6.05%.

Table No. IV is also misleading in that it is based upon 6.35% overheads and only $422,886.00 is allowed for going value.

[fol. 96] Table No. V is also misleading because for the year 1930 the fair value basis contains only $422,886.00 for going value as shown in Table VII of this opinion and in arriving at the historical basis and fair value basis 6.35% overhead is used.

The historical basis used in Table No. V is not derived from any of the exhibits made by the valuation department of this commission in this hearing but is based upon former rate bases fixed by this commission in previous hearings. It is set up as follows:

Table No. VI

Detail of Historical Rate Base of Los Angeles Gas and Electric Corp'n, Year 1930

Item	Fixed capital as of December 31, 1929
Intangible Capital:	
Organization	$415,734.71
Franchises	13,391.23
Total Intangible Capital	$429,125.94
Tangible Capital:	
Land	$3,500,888.00
Production Capital	19,215,650.10
Distribution Capital	32,205,911.59
General Capital	3,335,611.09
Total Tangible Capital	$58,258,060.78
Grand Total Fixed Capital	$58,687,186.72

[fol. 97]

Additional Allowance for Interest during construction	155,000.00
Total Fixed Capital Dec. 31, 1929	$58,842,187.00

Item	Fixed capital as of December 31, 1929
One-half Net A's and B's, 1930 (Company Estimate)	767,103.00
Average Fixed Capital, 1930	$59,609,290.00
Material and Supplies	450,000.00
Working Cash Capital	645,000.00
Rate Base Used	$60,704,290.00

The fair value basis used in Table No. V is set up as follows:

Table No. VII

Detail of Fair Value Rate Base of Los Angeles Gas and Electric Corporation, Year 1930

Item	Fixed capital as of Dec. 31, 1929, one-day pricing period, June 15, 1930
Intangible Capital:	
Organization	$415,000.00
Franchises	12,406.00
Total Intangible Capital	$427,406.00

[fol. 98]

Tangible Capital:	
Land	$3,693,191.00
Production Capital	15,013,689.00
Distribution Capital	37,125,587.00
General Capital	2,731,120.00
Total Tangible Capital	$58,563,587.00
Total Capital	$58,990,993.00
Intangibles and Land	4,120,597.00
Total Capital Less Intangibles & Land	$54,870,396.00
Less Difficulty Factor Exh. No. 32, pp. 147	580,195.00

Item	Fixed capital as of Dec. 31, 1929, one-day pricing period, June 15, 1930
	$54,290,201.00
Wrought Iron Pipe Allowance	1,456,614.00
	$55,746,815.00
Book Overheads, at 6.35%	3,539,922.00
	$59,286,737.00
Operative Land as of Dec. 31, 1929	3,500,888.00
	$62,787,625.00
Organization and Franchises	427,406.00
Total Fixed Capital, Dec. 31, 1929	$63,215,031.00
Add ½ A's and B's for 1930	767,103.00
	$63,982,134.00
[fol. 99]	
Materials and Supplies	450,000.00
Working Cash Capital	645,000.00
Subtotal	$65,077,134.00
Going Value	422,866.00
Rate Base Used	$65,500,000.00

I have set up in the following two tables an historical and a fair value basis built up on the studies and exhibits made by the engineering department of this commission.

Table VIII

Historical Rate Base, with Going Value

Ex. 52, Vol. 1, Table 1, C. R. C. Dufour, 11.25

Overhead	$61,019,662.00
Add 10% for Going Value	6,101,966.00
	$67,121,628.00
Add ½ of A's and B's, 1930	767,103.00
	$67,888,731.00

Materials and supplies	450,000.00
Working cash capital	645,000.00
Rate base	$68,983,731.00
Rate base used	$69,000,000.00

[fol. 100] Table No. IX

Fair Value Basis Based Upon Reproduction Cost New Depreciated

Ex. 52, Vol. 1, Table 2, Colm. 3, C. R. C.

22.35% overhead, Undepreciated	$73,637,542.00
Ex. 56, Same depreciated	$64,179,071.00
Deduct difference between $3,693,191.00 of Ex. 52, Vol. 1 Table 2 Colm. 3 and $3,500,888.00 allowed by Com. Carr for operative land	192,313.00
	$63,986,758.00
Add 10% for Going Value	6,398,675.00
	$70,385,433.00
One half A's and B's, 1930	767,103.00
Materials and supplies	450,000.00
Working Cash Capital	645,000.00
Reproduction cost new depreciated rate base	$72,247,536.00
Fair Value Used	$72,500,000.00

I have used a fair value of $72,500,000.00 for the reason that I have not used the going value of $10,000,000.00 set forth in the record. If I had used such going value, the fair value here used would be much less than a fair value based upon reproduction cost new depreciated.

I have also set up in Table No. X an estimate of the operations of the gas division of the company for the year 1930, basing the operating revenues upon the actual revenue for [fol. 101] the year to September 1st, and projecting the

earnings for the remaining months on the curve, extended, formed by the actual receipts to September 1st.

Table No. X

Estimate of Operating Revenue and Expenses for 1930

Operating Revenue,[1]	$16,961,000.00
Operating Expenses:	
Production / Transmission	4,538,000.00
Distribution	1,123,000.00
Commercial	885,000.00
New Business	114,000.00
General	1,005,000.00
Subtotal	$7,665,000.00
Depreciation	$1,222,023.00
Taxes	1,594,000.00
Uncollectibles	182,000.00
Subtotal	$2,998,023.00
Total Operating Charges	$10,663,023.00
Net for Return	5,394,977.00
Rate base—fair value	72,500,000.00
Rate of Return, on fair value	7.4+%
Rate base, historical with going value, Table No. VIII	$69,000,000.00
Rate of Return—on historical basis with going value—Table No. VIII	7.8+%

[fol. 102] Overheads:

As I have pointed out, both the historical and fair value rate bases used in the majority opinion are based upon 6.35% overheads. There is no evidence in the record of any weight that justifies the adoption of any such overhead percentage. The lowest percentage of overheads that

[1] Based on actual receipts to Sept. 1st, and projected on same basis for remaining months of 1930.

is at all supported by the record in this case is 11.25. In all the cases in which I have sat in the last five years, I have never heard the Commission's engineers advocate an overhead charge of less than 14%, so in adopting the engineering study which used an overhead of 11.25%, I feel that I have been conservative.

Going Value:

Going value is not measured alone by the cost of attaching new business. It is a present element in every paying business over and above physical value. It is an intangible element that can be determined only by the judgment and opinion of men eminently qualified by long experience in the design, construction and operation of gas properties and thoroughly conversant with the particular business.

The testimony of Colonel Miller that the going value of the company's property over and above the value represented by its physical elements was at least $9,288,667.00, and the testimony of Mr. Luick that such value was at least $10,000,000.00 stands unchallenged and undisputed and undenied by any testimony anywhere in the record. To adopt, in the face of such undisputed testimony as the majority opinion has done, a going value of $422,866.00 [fol. 103] (shown in Table No. VII), is an absolute disregard of all testimony and all law.[5] In fixing the going value at 10% of the physical property, I feel that I have been conservative indeed, and probably would have been justified in using $10,000,000.00.

Economic Conditions:

A study of the actual operating revenue for the year 1930, shows it to be under that estimated by the company. This is due to the economic pressure and economies made necessary by the drastic change in the business of the community. It is only a part of the business depression affecting the whole country and in my opinion will continue through the year 1931, and probably well into 1932. To fix rates upon the former normal trend of business, is to close our eyes to what is everywhere about us, and to forget

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[5] Des Moines Gas Co. vs. City of Des Moines, 238 U. S. 153, McCardle vs. Indianapolis Water Co., 272 U. S. 400.

that we are faced with actualities, and that theories should yield to actual facts.

Rate of Return:

Table No. V is predicated upon a 9% reduction in the estimated earnings of the company as shown by its exhibits. It will yield to the company upon the historical rate base shown in Table No. VIII, a return of 6.8-% and upon the fair value base shown in Table IX a return of 6.3+%. These returns are less than the cost of money.

There are several other matters in the majority opinion with which I disagree in part, but I have deemed it best to discuss only the major points of difference. Under the evidence in this case any reduction in revenue is questionable. [fol. 104] It seems to me that this Commission should adopt the legal method of fixing a rate base on fair value including therein a proper allowance for going value. However, if it still persists in adhering to the historical cost rate basis, it should also adhere to its past practice and allow a return between 8 and 8½%.

Ezra W. Decoto, Commissioner.

Certified as a true copy.

H. G. Mathewson, Secretary Railroad Commission, State of California.

EXHIBIT "B" TO BILL OF COMPLAINT

BEFORE THE RAILROAD COMMISSION OF THE STATE OF CALIFORNIA

Case No. 2747

In the Matter of the Investigation, Upon the Commission's own Motion, Into the Rates, Charges, Classifications, Rules, Regulations, Practices, and Contracts of Los ANGELES GAS AND ELECTRIC CORPORATION

Petition for Rehearing

To the Honorable the Railroad Commission of the State of California:

Los Angeles Gas and Electric Corporation, a corporation, hereby respectfully petitions the Commission for a

rehearing on Decision and Order No. 23102, dated November 24, 1930, and as grounds for said rehearing alleges:

1. Said Decision and Order is unconstitutional, void and unlawful in that—

(a) Said Decision and Order is in violation of the Constitution of the United States and the Constitution of the [fol. 105] State of California, in that it deprives Petitioner of its property, and the use thereof, without due process of law; denies Petitioner the equal protection of the laws; and takes Petitioner's property, and the use thereof, for public use without just compensation.

(b) Said Decision and Order is in violation of the Constitution of the United States and the Constitution of the State of California in that it prescribes rates which will not yield Petitioner a fair return upon the fair value of its property used and useful in the public service, and thus deprives petitioner of its property, and the use thereof, without due process of law; denies Petitioner the equal protection of the laws; and takes Petitioner's property, and the use thereof, for public use without just compensation.

(c) Said Decision and Order is arbitrary, is contrary to the evidence, and is wholly unsupported by the evidence in the above proceeding.

(d) Said Decision and Order prescribes rates which will not yield to Petitioner the cost of the service, consisting of adequate and reasonable operating expenses, including depreciation and taxes, and a fair return upon the fair value of its property used and useful in the public service.

2. This proceeding was instituted by the Commission on its own motion as one of a series of investigations into the rates of various utilities in the State which from data on file with the Commission "apparently were realizing a better net earning than was deemed reasonable." It was not initiated by the complaint of any consumer or public body, nor does the record contain any showing of any criticism of the rates by any consumer of Petitioner. The order instituting the proceeding was made on October 1, 1929, less than a year after the Commission had made an order, effec- [fol. 106] tive December 1, 1928, prescribing "just and

reasonable" rates to be charged by Petitioner (which rates are the rates now in effect), in which order the Commission stated "It is apparent from the fact that gas sales and revenue fluctuate in accordance with variations in temperature, that the rate of return for any one year may be either above or below what is considered adequate. * * * Recognizing this fact, and giving consideration to the past few years of somewhat higher than normal temperatures, we will fix rates that will yield slightly in excess of 7½ per cent over a long period of years, and which can be safely relied upon to give 7½ per cent return during the next two or three years" (32 C. R. C. 379, 386).

3. Following the order instituting this proceeding, dated October 1, 1929, hearings were held at which evidence was introduced as to the fair value of Petitioner's property, its reasonable operating expenses, what constitutes and would constitute fair return upon such property, the value of the service rendered by Petitioner, and the reasonableness of its rates. Following these hearings, and on November 24, 1930, the Commission made its said Decision and Order. In its Decision and Order the Commission purported to find as a fact that the rates presently in effect, and which are those prescribed by the Commission as just and reasonable, effective December 1, 1928, are "unjust and unreasonable," and prescribed new rates which it stated "are carefully calculated and intended to effect a reduction in the Company's gross domestic and commercial revenue of 9 per cent." Said finding, while in form a finding that the present rates are unjust and unreasonable, is in substance and effect merely [fol. 107] a finding and conclusion that the rates presently in effect would in years of average temperature, and with sales in excess of those of the year 1929, yield to Petitioner a return upon the erroneously assumed original cost of the physical property of Petitioner in excess of that amount which the Commission believes would just escape the condemnation of a Court as depriving Petitioner of its property, and the use thereof, without due process of law, and is not a finding that said rates presently in effect are unjust or unreasonable within the meaning of the Public Utilities Act, or of the applicable law, or a finding that the Petitioner is actually earning in excess of a fair return upon the fair

value of its property, or even on the actual cost thereof. In making its Decision and Order and in prescribing the new rates, the Commission has intentionally failed and refused to measure the reasonableness of the present rates of Petitioner or the new rates prescribed by the Commission, by the fair value of Petitioner's property as required by the law of the land, but has unlawfully and intentionally fixed and determined the reasonableness of said rates upon the basis of a value of Petitioner's property fixed by adding to the appraisal figures made by a Commission Engineer as of October 1, 1915, the cost of additions and betterments since that date, as shown by the entries on Petitioner's books, although the uncontradicted evidence shows that such entries were in error, in that the actual cost of such additions and betterments was greatly in excess of the amount at which they had been entered in capital account on said books.

4. Said Decision and Order and the rates therein prescribed, if not rescinded, annulled or set aside, will decrease the gross revenues of Petitioner during the year 1931, and [fol. 108] subsequent years, by an amount in excess of $1,300,000 per annum, and will reduce the net earnings of Petitioner available as a return on its property used and useful in the service of the public by an amount in 1931, and in each year subsequent thereto, of more than $1,100,000 (an amount representing more than 1/5 of its estimated net earnings during the year 1931 at present rates), although the evidence before the Commission in this proceeding clearly shows—(a) that the existing rates and charges of Petitioner are not unreasonable and will not be unreasonable in the year 1931, but on the contrary are and will in the future be less than reasonable; (b) that the net earnings of Petitioner available as a return on its property are not now, nor will they in the future, at present rates, be in excess of an amount which would constitute a fair return upon the fair value of its property devoted to the public use; and (c) that the rates prescribed in said Decision and Order, if placed in effect, will fail to yield Petitioner in the future a fair return upon the fair value of its property devoted to public use, by an amount in excess of $2,000,000 per year.

5. Said Decision and Order and the rates therein prescribed are founded upon an erroneous conception and application of the law on the part of the Commission in this:

(a) It has fixed and determined the value of the properties of Petitioner used and useful in the service of the public by adopting the appraisal of a Commission Engineer made as of October 1, 1915, and adding thereto the amounts at which additions and betterments have been entered upon the books of Petitioner (notwithstanding said books have been [fol. 109] shown to be in error because of the entry of certain capital expenditures as operating expenses), and it has failed to give due, or any consideration or weight to the evidence in the proceeding showing the actual cost of said properties, the historical reproduction cost of said properties, and/or the present cost to reproduce said properties, all of which items of original cost, historical reproduction cost and present reproduction cost have been wholly and totally ignored by the Commission in fixing what it alleges to be the "rate base" or "fair value" of Petitioner's property, which it has used as a basis for the rates prescribed in said Decision and Order. In that connection the Commission has found as the original cost of Petitioner's property, and as a rate base, based thereon, the sum of $60,704,000, whereas the evidence shows that such original cost is not less than $68,561,888; and has found as the fair value of Petitioner's property the sum of $65,500,000, subject to a deduction for depreciation in the amount of $7,650,000, whereas the evidence shows that such fair value is not less than $95,767,321.

(b) In fixing the rate base or fair value of Petitioner's property, the Commission has wholly ignored and failed to consider, or include therein, the following elements of value, all of which are shown by the uncontroverted evidence in this proceeding:

(1) Going value in the amount of at least	$9,228,667.
(2) Cost of financing in the amount of at least	5,921,470.
(3) Cost of promoter's remuneration in the amount of at least	2,500,000.

[fol. 110] (c) It has failed and intentionally refused to prescribe rates which would yield a fair, or any, return upon that part of the fair value of the property of Petitioner devoted to public use in paragraph (b) hereof set forth.

(d) It has measured the reasonableness of existing rates by the net earnings of Petitioner available as a return upon

its property used and useful in the service of the public, and has completely ignored other material factors such as the value of the service, the quality of the service, and the unusual economy and efficiency of Petitioner in the conduct of its business.

6. The Commission erred in finding that the accrued depreciation on the properties of Petitioner as of December 31, 1929, was $7,650,000. The uncontradicted evidence shows: (a) that the actual accrued depreciation of the properties as of December 31, 1929, was not in excess of $3,470,326, and that such depreciation was determined by an actual physical examination by competent engineers; (b) that the figure of $9,458,372 testified to by Commission's Engineer Wehe did not purport to be the actual accrued depreciation of Petitioner's property determined by a physical inspection of Petitioner's property, but is shown by his own testimony to be merely an estimate based upon the use of age and life tables, and the application of theoretical formulae having no reasonable relation to the actual physical condition of said property, or the actual depreciation thereof.

7. In its Decision and Order the Commission erred in the following:

(a) It allowed as working cash capital the sum of $645,000, whereas the uncontradicted evidence showed that the actual working cash capital of Petitioner is $2,330,850, and [fol. 111] that the reasonable requirements of Petitioner in the future for working cash capital will be at least that amount.

(b) It allowed for materials and supplies the sum of $450,000, whereas the uncontradicted evidence showed that the actual average amount of materials and supplies of Petitioner used and useful in the operation of Petitioner's business during the last three years was $612,735, and that the reasonable requirements of petitioner in the future for materials and supplies will be at least that amount.

(c) It allowed an aggregate of $1,095,000 for materials and supplies and working cash capital, whereas on December 31, 1926, in Decision No. 17830 it allowed for these items the sum of $1,266,000, and by its Decision No. 20448, on November 13, 1928, it allowed for these items the sum of $1,-

800,000, although Petitioner's business and properties at said times were substantially less than at present.

8. The Commission erred in its finding as to the amount of the reasonable and proper operating expenses of Petitioner and erred also in its conception and application of the law, in that it assumed the power and function of managing the property of this Petitioner, and usurped the duties and powers of its officers and executives by determining what expenditures should be made, and disallowing and rejecting payments actually made in good faith by Petitioner's officers and executives. The property of Petitioner is private property though affected by a public use, and the Commission is without power or authority, under the guise of establishing a fair rate, to usurp the powers of its management and substitute its judgment for theirs as to the propriety of [fol. 112] expenditures made, or of contracts entered into, by Petitioner in good faith. In that behalf the uncontradicted evidence shows that the operating expenses of Petitioner are now and in the future will exceed the amount found in said Decision and Order by at least the sum of $320,000 per annum with depreciation on a 6% sinking fund basis, and by at least the sum of $2,000,000 with depreciation on a straight line basis. The Commission has further arbitrarily disallowed and rejected actual and reasonable expenditures or anticipated expenditures as follows:

(a) Depreciation in the amount of at least $232,465 per annum, having allowed depreciation of but $990,000 per annum on its erroneous rate base of $60,704,000, whereas the accruing depreciation in the future on a 6% sinking fund basis, will not be less than $1,222,465 per year, and on a straight line basis not less than $3,000,000 per year. In Decision No. 17830, dated December 31, 1926, the Commission allowed depreciation of $1,078,000 per annum on a 6% sinking fund basis, on a then allowed rate base of $54,506,465, and in Decision No. 20448 it allowed depreciation of $1,092,092 per annum on a 6% sinking fund basis on a then allowed rate base of $58,712,404.

(b) Compensation in the amount of $86,000 per annum paid and to be paid to Pacific Lighting Company under a

contract for services and facilities, and shown by the uncontradicted evidence to be an amount not in excess of the reasonable value of such services and facilities.

[fol. 113] (c) Payment for purchased gas, shown by uncontradicted evidence as being reasonably payable on account of future purchases.

9. The Commission erred in its findings of gross revenue under the existing rates, and in its estimates of gross revenue under the rate prescribed in its Decision and Order. The Commission gave no consideration whatever to the actual experienced revenue of the Petitioner, but in considering the reasonableness of its existing rates assumed that said reasonableness could be determined, not by what Petitioner actually earned in the past, or is actually earning at the present time, but what it might have earned in the past had the temperatures been average, had the consumers purchased constantly increasing quantities of gas, and had various operating expenses, actually incurred and paid by Petitioner, not been incurred or paid. The estimate of the Commission of the future revenues of Petitioner is erroneous in that it proceeds upon the assumption that temperatures in the future will be average, that its consumers will constantly increase, that its consumers will purchase a constantly increasing quantity of gas, and that Petitioner will not incur or pay certain operating expenses which the uncontradicted evidence shows will be incurred and will have to be paid.

10. The Commission erred in finding that a 7.7% rate of return on an historical cost base, and a 7% rate of return on a fair value base would constitute a fair or compensatory rate of return. The uncontradicted evidence in this proceeding shows that a rate of return of less than 8% per annum upon a fair value of Petitioner's property devoted to public use would be confiscatory, and that a minimum of 8% [fol. 114] per annum is the return presently enjoyed upon capital invested in Los Angeles and vicinity in other business undertakings which are attended by corresponding risks and uncertainties to that of Petitioner. The Commission also erred in its finding that "the present annual cost of its (Petitioner's) bond and preferred stock money is 6.17 per cent." The uncontradicted evidence shows that the average annual cost of its bond money was 6.40% and the average annual

cost of its preferred stock money was 6.76%. The Commission also failed to give any consideration to the cost of common stock money which the evidence shows was at least 8½% per annum.

11. The Commission erred as a matter of law in its determination of what constituted a fair return, in that it considered that a fair return was an earning that would put Petitioner "in an earning position at least as good as, and probably slightly better than, that which this Commission intended it should enjoy when its rates were reduced in the latter part of 1928," and that "a return or earning position on such basis as is now found to be reasonable is consonant with that allowed other comparable utilities and has proved sufficiently liberal to attract large amounts of capital into the field of utility investment. Investors, at least, have not considered such a return or earning position to be unfair, unreasonable or unattractive to capital," and that "This Commission for many years, in the exercise of its jurisdiction to establish reasonable rates for utilities of this character, has fixed rates to yield upon the historical or actual cost of the property, taking land, however, at current prices, and depreciation calculated on a sinking fund basis, a return somewhat in excess of the cost of money." Such a basis of [fol. 115] determining what constitutes a fair return is contrary to law, and the rate of return found by the Commission in said Decision and Order as a basis for the rates therein prescribed is contrary to law and ignores the requirement that the rate of return be at least equal to that enjoyed by capital invested in the same locality in business undertakings which are attended by corresponding risks and uncertainties.

12. That the Commission erred in placing upon Petitioner the burden of proving that the existing rates were reasonable and that it was not earning in excess of a fair return. Under the law, in said proceeding, no burden of proof rested upon Petitioner to justify the reasonableness of the existing rates, which had been fixed by the Commission and found to be "just and reasonable" as of December 1, 1928; and the power and authority of the Commission to set aside the existing rates depended, as a condition precedent, upon its first determining from the evidence introduced in the proceeding that the existing rates

were unreasonable. The evidence in the proceeding did not show that the existing rates were unreasonable, but the Commission erroneously proceeded upon the theory that it had power and authority to find the existing rates unjust and unreasonable if the preponderance of the evidence did not show said rates to be just and reasonable. In so placing the burden of proof upon Petitioner, and in finding the rates to be unjust and unreasonable by reason of the application of said erroneous conception of the law, the Commission acted arbitrarily and unlawfully.

13. Said Decision and Order did not result from the exercise by the Commission of the power vested in it, to find, after hearing and upon the evidence there presented, that the rates charged or collected by Petitioner are unjust [fol. 116] or unreasonable, or to fix, after so finding, reasonable or sufficient rates. On the contrary, the power assumed and in fact exercised by the Commission in making said Decision and Order, is to limit or regulate the net profits of this Petitioner, irrespective of the reasonableness of its existing rates and charges and "to effect a reduction in the company's gross domestic and commercial revenue of 9%," irrespective of the reasonableness of the existing rates or the reasonableness of the rates prescribed by said Decision and Order. Such action by the Commission, while in form purporting to be the exercise of its prescribed power and authority, is in substance and effect an arbitrary, unlawful and unconstitutional action, depriving Petitioner of its property without due process of law, and is not made in the exercise of any power or authority vested in the Commission.

14. Said Decision and Order, in so far as it prescribes certain optional rates which Petitioner may adopt upon condition that it stipulate to the creation of a temperature reserve upon the terms set forth in said Decision and Order—

(a) is unconstitutional, void and unlawful upon each of the grounds set forth in paragraph 1 hereof; and

(b) is void and unlawful for each and every of the reasons and grounds set forth in the remaining paragraphs hereof; and

(c) is void and unlawful because it is in excess of and beyond the power of the Commission, in that it is not the exercise of the power to fix just and reasonable rates, but is an attempt to direct, control and recapture the ownership, use and disposition of the funds and properties of [fol. 117] Petitioner, and is further an attempt to force and compel Petitioner to agree to a procedure which it is beyond the lawful power of the Commission to prescribe or enforce, by offering it as an optional alternative to even lower rates which are themselves unconstitutional, void and unlawful.

Wherefore Petitioner prays:

(1) That the Commission set aside said Decision and Order;

(2) That a rehearing be granted;

(3) That upon such rehearing the proceeding be dismissed; and

(4) For such other and further relief as may be meet and proper

Respectfully submitted.

Los Angeles Gas and Electric Corporation, by Herman Phleger, Paul Overton, Brobeck, Phleger & Harrison, Its Attorneys.

[fol. 118] State of California,
City and County of San Francisco, ss:

H. L. Masser, being first duly sworn, deposes and says:

That he is an officer, to wit, Vice-President and Executive Engineer of the Los Angeles Gas and Electric Corporation, a corporation, the Petitioner named in the foregoing Petition for Rehearing; that he has read the said petition and knows the contents thereof, and that the same is true of his own knowledge, except as to the matters therein stated on information and belief, and as to those matters that he believes it to be true.

H. L. Masser.

Subscribed and sworn to before me this 3rd day of December, 1930. Eugene P. Jones, Notary Public in and for the City and County of San Francisco, State of California.

[fols. 119-124] EXHIBIT "C" TO BILL OF COMPLAINT

Before the Railroad Commission of the State of California

Decision No. 23179. Case No. 2747

In the Matter of the Investigation, Upon the Commission's Own Motion, Into the Rates, Charges, Classifications, Rules, Regulations, Practices, and Contracts of Los Angeles Gas and Electric Corporation

Order Denying Rehearing

By the Commission:

Petition for a rehearing of our Decision No. 23102 in the above entitled matter having been filed by Los Angeles Gas and Electric Corporation; the Commission having carefully considered the said petition, and each and every allegation contained therein, and being of the opinion that no good cause for the granting of a rehearing is therein made to appear.

It is hereby ordered that the said petition for rehearing be and the same is hereby denied.

Dated at San Francisco, California, this 15th day of December, 1930.

C. L. Seavey, Leon O. Whitsell, Thos. S. Louttit, W. J. Carr, Commissioners.

[fol. 125] IN UNITED STATES DISTRICT COURT

[Title omitted]

ANSWER OF DEFENDANTS

Answering the complaint of plaintiff herein, the defendants, the Railroad Commission of the State of California, and C. L. Seavey, Leon O. Whitsell, Thomas S. Louttit, W. J. Carr and Ezra W. Decoto as members of and constituting the Railroad Commission of the State of California, respectfully admit, deny and allege as follows:

I

In respect to the allegations contained in Paragraph I of said complaint, defendants admit that plaintiff is a corporation existing under the laws of the State of California and engaged in the purchase, sale and distribution of gas in

the City of Los Angeles and vicinity; and admit that the properties owned by plaintiff include gas manufacturing plants, storage holders, mains and meters approximately of the size and in the quantities therein alleged; and admit [fol. 126] that plaintiff's sales of gas fluctuate approximately as alleged, and that its gross revenues from said business during the twelve months period ending October 31, 1930, were approximately $15,698,440. But defendants deny that plaintiff now owns and uses in its said public utility gas business gas manufacturing plants having a daily capacity of 100,000,000 cubic feet or uses any gas manufacturing plants for the manufacture of gas in said business or that said plants are useful in said public service; and deny that the value of the properties owned by plaintiff and used in said business is $95,000,000, or more than $57,850,000.

And in this regard defendants allege that since on or about April 22, 1927, plaintiff at all times, except during the one day of March 13, 1928, has sold and distributed straight natural gas, and has not in the entire period since April 22, 1927, manufactured gas in excess of 569,000 cubic feet, nor used for such purpose more than one of its gas manufacturing plants having a daily capacity of not more than 40,000,000 cubic feet.

II

Defendants admit the allegations and each and every allegation contained in Paragraphs II, III, IV, V and VI of said complaint.

III

Answering the allegations contained in Paragraph VII of said complaint, defendants deny that the decision and order of the Railroad Commission made on November 24, 1930, is unconstitutional or void or unlawful, and deny that said decision and order prescribed rates which are unjust or unreasonable or which will not yield plaintiff a fair return upon the value of its property used and useful in the public service, or that by said decision and order the Railroad Commission took or damaged plaintiff's property for public use without just compensation, or in any manner de- [fol. 127] prived plaintiff of its property without due process of law, or denied plaintiff the equal protection of the

laws, contrary to or in violation of any provision of the Constitution of the United States.

IV

In answer to the allegations contained in Paragraph VIII of said complaint, defendants deny that the fair value of the property of plaintiff used and useful in the service of the public for the sale of gas has during the calendar year 1930 averaged $95,767,351, and deny that the fair value of said property will not in the year 1931 or any future year be less than said sum; and defendants allege that the fair value of plaintiff's property used and useful in rendering gas service to the public did not during the year 1930 average in excess of $57,850,000.

V

Defendants deny the allegations contained in Paragraph IX of said complaint and each and every allegation therein contained; and in this regard defendants allege that the return upon capital invested in Los Angeles and vicinity in business undertakings other than public utilities cannot be ascertained with any degree of accuracy; that the return on capital invested in such business undertakings varies greatly; that no comparison can be made with any degree of accuracy between the risks and uncertainties inhering in such business undertakings and those of plaintiff's business; that the average annual return upon capital invested in public utility enterprizes in Los Angeles and vicinity and elsewhere within the state of California is much less than 8%; that the present actual annual cost to plaintiff for its bond and preferred stock money is 6.17 per cent; and that a fair return to plaintiff upon the fair value of its properties is not now in excess of 7% per annum.

[fol. 128] VI

Answering the allegations contained in Paragraph X defendants deny that the estimates and findings of the Railroad Commission are contrary to fact or contrary to law.

Answering the allegations contained in subdivision (a) of Paragraph X of the complaint, defendants admit that the actual total operating revenue of plaintiff during the

twelve months period ending October 31, 1930, was approximately $15,698,440; admit that had the rates prescribed in said decision and order of the Commission been in effect during said period, the total revenues would have been approximately $14,352,450; but in this regard defendants allege that the year 1930 was a relatively warm year with temperatures prevailing above average with the result that plaintiff's revenues were below normal and below the amount to be reasonably expected in the future; that had temperatures of 1930 been average the operating revenues of plaintiff for the year ending October 31, 1930, would not have been less than $16,252,000 under rates now in effect, and had the rates prescribed in said decision and order been in effect during said period, the operating revenue of plaintiff under average temperature conditions would not have been less than $14,856,000. Defendants admit that Commission's estimate of $15,003,000 for the year 1930 under rates prescribed is more than the actual revenue derived by plaintiff for the twelve months period ending October 31, 1930, but in this regard allege that the said estimate of $15,003,000 is a reasonable estimate of plaintiff's revenues for 1930 under prescribed rates, assuming average temperature conditions and that said estimate constitutes a reasonable basis for measuring rates for the future.

Answering the allegations contained in subdivision (b) [fol. 129] of Paragraph X, defendants admit that the actual operating expenses of plaintiff during the twelve months period ending October 31, 1930, were approximately $10,547,482; deny that had the rates prescribed in said decision and order been in effect during said period, the total reasonable expenses would have been not less than $10,284,983, and in this regard defendants allege that reasonable operating expenses for said period under the rates prescribed and under average temperature conditions would have been not in excess of $10,014,000; admit that the Commission's estimate of operating expenses for the year 1930 of $10,315,000 is based upon estimated sales of gas in excess of the amount actually sold in said twelve months period, which would require the purchase of greater quantities of natural gas than actually were purchased, but in this regard defendants allege that said Commission's allowance of $10,315,000 as operating expenses for 1930 is based upon average temperature conditions and upon the pur-

chase of gas which would be purchased under such conditions; deny that the defendants refused to allow or consider as operating expenses of plaintiff any sums reasonably necessary to such operation, and in this regard allege that the operating expenses allowance of $10,315,000 estimated for 1930 is reasonable and adequate as an estimate for the future under rates prescribed.

Answering the allegations contained in subdivision (c) of Paragraph X, defendants admit that the actual net return during the twelve months period ending October 31, 1930, was $5,150,957, and had the rates prescribed in said decision and order been in effect during said period, the total net unadjusted revenue would have been approximately $4,067,467; in this regard, however, defendants allege that had said rates been in effect during the year 1930, and had said normal or average temperature conditions been experienced, the plaintiff's would have realized [fol. 130] $4,688,000 as net for return, after giving effect to adequate and reasonable operating expenses.

Answering the allegations contained in subdivision (d) of Paragraph X, defendants deny that the fair value of said properties of plaintiff is, or in the future will be, not less than $95,767,351; and in this regard allege that the fair value of said properties during the year 1930 was not in excess of $57,857,000; deny that the actual historical cost of said properties is not less than $68,561,888, and in this regard allege that the historical cost of said properties during said period was not in excess of $60,704,000; admit that said historical cost figure of $60,704,000 used by the Commission was obtained by adding (1) to an appraisal made by a Commission engineer as of October 1, 1915; (2) the net additions and betterments to plaintiff's property since that date as they appear on the plaintiff's books; (3) land at its December 31, 1929 market value, and (4) working cash capital and materials and supplies in the amount of $1,095,000; deny that said working cash capital and materials and materials and supplies in said amount is erroneous, but allege that said sum is a reasonable allowance for said capital for the year 1930 and in the future; deny that the rate base of $65,550,000 as shown in the fair

value table of the Commission decision (Table IV) is not the fair value of said properties and deny that said fair value was not determined in accordance with the law of the land; deny that said figure was obtained by pricing the inventory items at the prices existing on June 15, 1930, land at its market value as of January 1, 1930 and adding thereto, for engineering and superintendence, legal expenses, injuries, damages and miscellaneous expense, errors, omissions and contingencies and taxes and interest during construction, a percentage of 6.35 per cent; in this regard defendants allege that said fair value figure is a judgment [fol. 131] figure arrived at upon the consideration of the entire record before the Commission, including all estimates of cost and value, although defendants admit that a dominant consideration was accorded the current price level cost estimate of plaintiff's properties in arriving at said fair value estimate, and that in arriving at said current price level cost, said figure was obtained by pricing the inventory items at the prices existing on June 15, 1930, land at its market value as of January 1, 1930, and adding thereto for engineering and superintendence, legal expenses, injuries, damages and miscellaneous expense, errors, omissions and contingencies and taxes and interest during construction a percentage of 6.35 per cent; admit that in fixing said fair value figure, the Commission did not include therein any independent item of value to represent the claimed elements of going value, but in this regard allege that in fixing said present fair value, the Commission gave consideration to the fact that the properties of plaintiff were going properties, that plaintiff possessed a trained personnel and organization; in this regard it is further alleged that said Commission also treated said alleged going concern value as a current operating expense and allowed as new business expense the sum of $114,000 for said year 1930; admit that the Commission did not include in its fair value figure the sum of $5,921,470 for cost of financing or $2,500,000 for promoters' remuneration, but in this regard alleges that the Commission in arriving at its fair value estimate gave consideration to said claims and made due allowance for expenditures made for said claimed items as entered in the books of the company.

Admit that the Commission allowed for materials and supplies and working cash capital the sum of $1,095,000, but deny that said sum does not meet the actual requirements of plaintiff for 1930, and in this regard, allege that [fol. 132] said sum is reasonable and adequate to meet the requirements of plaintiff for 1930 and in the future.

Answering the allegations contained in subdivision (e) of Paragraph X, deny that had the rates prescribed in said decision and order of the Commission been in effect during the twelve months period ending October 31, 1930, plaintiff would have earned a net revenue for return not in excess of $4,067,467; in this regard defendants allege that had average temperature conditions prevailed during said period plaintiff would have realized $4,842,000 as net revenue available for return, after making due and proper allowance for reasonable operating expenses for such period.

Answering the allegations of subdivision (f) of Paragraph X, deny that the gross and/or net earnings of plaintiff during the calendar year 1931 and succeeding years cannot be expected to exceed or will not exceed the results which would have been realized for the twelve months period ending October 31, 1930, and in this regard allege that the figures shown in the first two columns on the left hand side of the table set forth on page 15 of the bill of complaint, showing Commission estimated results of operation for 1930, are fair and reasonable estimates for said period, and for a reasonable period in the future, giving effect and consideration to average and normal temperature conditions which may be expected to prevail during said period; deny that the figures shown in the two right hand columns of figures shown on page 15 of the bill of complaint are reasonable or that they accurately reflect the results of operations for the year 1931, and/or succeeding years.

VII

Answering the allegations contained in Paragraph XI, defendants deny that under the rates prescribed plaintiff will receive as net for return in 1931, and in the immediate [fol. 133] subs-quent years, a return of but 4.22 per cent per annum upon the fair value of its property, and deny that its net revenue for return would be not in excess of $4,037,778 per annum; in this regard, defendants allege that for

the year 1931 and the immediate subsequent years, the rates prescribed in said decision and order will yield to plaintiff a net return of $4,842,000, assuming average temperature conditions to prevail and after making due allowance for reasonable and necessary operating expenses to be anticipated under such conditions; defendants in this regard further allege that said net return to be so realized would yield 8.00 per cent upon the historical cost of plaintiff's properties and 7.4 per cent upon the fair value of said properties.

VIII

Answering the allegations contained in Paragraph XII, defendants admit that such allegations are substantially correct; however, with reference to the table set forth on page 17 of the bill of complaint purporting to reflect reductions in rates prescribed by the Commission's order, defendants allege that said table is not representative in that it does not reflect the percentage of reduction in gross revenue from domestic and commercial consumers; in this regard, it is alleged that the reduction in gross revenue effected by rates prescribed in said order are not in excess of 9 per cent of the gross revenue heretofore obtained from said classes of consumers under existing rates.

IX

Answering the allegations contained in Paragraph XIII, defendants deny that said order in so far as it offered to plaintiff certain temporary optional rates is unconstitutional and/or unlawful upon any of the grounds set forth in Paragraph VIII of the bill of complaint, or at all; deny that [fol. 134] the net revenue to be derived under said optional rates should said rates be accepted would not constitute a fair return and in this regard allege that the return under such rates for 1930 and the immediately succeeding years would be in excess of reasonable; deny that acceptance of said optional rates by plaintiff would not allow plaintiff to include in its operating expenses all reasonable sums necessary for operation.

Wherefore defendants pray that the interlocutory injunction heretofore entered in this matter be dissolved and that plaintiff take nothing by this said action, and for such other

and further relief as to this Court may seem equitable in the premises and for costs of suit herein expended.

Dated at San Francisco, California, January 17, 1931.

Railroad Commission of the State of California, by C. L. Seavey, Commissioner. Arthur T. George, Ira H. Rowell, Roderick B. Cassidy, Solicitors for Defendants.

Subscribed and sworn to before me this 17th day of January, 1931. Hester W. West, Notary Public in and for the City and County of San Francisco, State of California. (Seal.)

[fol. 135] *Duly sworn to by Clyde L. Seavey. Jurat omitted in printing.*

[fol. 136] In United States District Court

[Title omitted]

Answer of Intervener, City of Los Angeles

Comes now the intervener City of Los Angeles, a municipal corporation, and leave of court having been obtained, files this, its answer to plaintiff's bill of complaint on file herein, and hereby admits, denies and alleges as follows, to wit:

I

Answering the allegations of Paragraph I of plaintiff's bill of complaint this intervener denies that the manufacturing plants referred to in said paragraph are used and useful in the public service.

This intervener further denies that the value of the [fol. 137] properties belonging to the plaintiff used and useful in the public service exceed the sum of $95,000,000.00, and in this connection this intervener alleges that the present fair value of said properties used and useful in the public service does not exceed the sum of $49,791,273.00.

II

Answering the allegations of Paragraph VII of said bill of complaint intervener denies that said decision and order

of the Railroad Commission of the State of California, dated November 24, 1930, is unconstitutional, void and unlawful;

(a) In that it deprives plaintiff of its property and the use thereof without due process of law and/or denies plaintiff the equal protection of the law, and/or takes plaintiff's property, and/or the use thereof for public use without just compensation, all contrary to and in violation of the Fourteenth Amendment to the Constitution of the United States;

(b) Denies that it prescribes rates which are unjust and unreasonable, and/or less than just and/or reasonble, and/or which will not yield plaintiff a fair return upon the fair value of its property used and useful in the public service; denies that it thus deprives plaintiff of its property, and/or the use thereof without due process of law or in any other way; denies that it deprives plaintiff of the equal protection of the law; denies that it takes plaintiff's property, and/or the use thereof, for public use without just compensation, or in any other way, contrary to and in violation of the Fourteenth Amendment to the Constitution of the United States, or of any other law whatsoever.

(c) Denies that the Commission in making and entering said decision and order, while in form undertaking to prescribe just and reasonable rates to be charged and collected by plaintiff, in substance and in effect, or in any way, [fol. 138] or at all, took and damaged the property of plaintiff for public use without just compensation in violation of the Constitution of the State of California, and/or in violation of any law whatsoever; denies that it deprived plaintiff of its property, and/or of the use thereof without due process of law, or in any other way, or at all, in violation of the Fourteenth Amendment to the Constitution of the United States, or in violation of any other constitution or law whatsoever.

III

Answering the allegations of Paragraph VIII of plaintiff's bill of complaint, this intervener denies that the fair value of the property of plaintiff used and useful in the service of the public for the sale of gas and the property used and useful in the service for which said rates were

ordered and prescribed by said Railroad Commission is now, and/or has averaged during the calendar year 1930, and/or will be in the future, not less than $95,767,351, and in this connection the said intervener alleges that the fair value of said property of the plaintiff used and useful in the public service at the time of the filing of the above-entitled complaint has not averaged in excess of, during the calendar year 1930, was not, and is not now, in excess of $49,791,273.00.

IV

Answering the allegations of Paragraph IX of said bill of complaint this intervener denies that the return upon the capital invested in Los Angeles and vicinity in other business undertakings which are attended by corresponding risks and uncertainties to that of plaintiff has been for the two years last past and will be for a reasonable period of time in the future not less than 8% per annum. This intervener further denies that the weighted average annual cost to plaintiff of the moneys invested in said properties during the period from 1909 to 1930 is not [fol. 139] less than 7.12%; and this intervener further denies that a fair return upon the fair value of said property of plaintiff during the year 1930 and in the future will be not less than 8% per annum upon said fair value of plaintiff's property used and useful in the public service. In this connection intervener alleges that the sum of $7,661,388 is in excess of the net amount required to be earned by said plaintiff in order to earn a fair return on the fair value of its property used and useful in the public service.

V

Answering the allegations of Paragraph X of said bill of complaint this intervener denies that the estimates and findings of the Railroad Commission are contrary to fact, and/or are contrary to the evidence introduced in the proceeding, and/or are contrary to law:

(a) Denies that had the rates prescribed in said decision and order been in effect during said period the total revenue of the company would not have exceeded $14,352,450; denies that the Commission's estimate of $15,003,000 is

more than $650,000 in excess of what the actual revenue would have been during said twelve months' period and/or would be for the calendar year 1930 under said rates prescribed in said decision and order.

(b) Denies that had it not been for said alleged erroneous estimate of gas sales by said Commission, or for any other reason, or at all, the estimate of operating charges made by the Commission is too low; denies that the Commission specifically refused, or refused at all, to allow, and/or consider as operating expenses of plaintiff actual expenditures made by plaintiff for operating expenses which in the twelve months' period ending October 31, 1930, amounted to more than $300,000; denies that actual expenditures for operating charges will actually be in- [fol. 140] curred by plaintiff in 1931 in at least the sum of $300,000 which the said Commission specifically refused to allow or consider, but in this connection intervener alleges that the said sum of $300,000 is not a proper charge for operating expenses to be allowed the company in the conduct of its business as a public utility for the twelve months' period ending October 31, 1930, or for the year 1931;

(c) Denies that had the rates prescribed in said decision and order been in effect during the period ending October 31, 1930, the total net for return to the company would not have exceeded the sum of $4,067,467; denies that the Commission's estimate of $4,688,000 is more than $620,500 or $1,700 per day in excess of what the actual net for return would have been during said twelve months' period or would be for the calendar year 1930 under said rates prescribed in said decision and order; but in this connection intervener alleges that the Commission's estimate of the net for return to the company should not be based upon the actual return to the company for the twelve months' period ending October 31, 1930, and/or the calendar year 1930, and in this connection intervener alleges that the sum of $4,688,000 estimated net for return is a conservative estimate under all the evidence introduced before the said Commission;

(d) Denies that the fair value of the said properties of plaintiff during said period ending October 31, 1930, was, and/or is, and/or in the future will be not less than $95,767,351; denies that the actual historical cost of said properties of plaintiff is not less than $68,561,888, not including going concern value; but in this connection intervener alleges that the present fair value of plaintiff's property used and useful in the public service does not exceed the sum of $49,791,273; denies that the rate base of $60,704,000 as fixed by the Commission was so fixed as the historical cost; denies that it is shown by the evidence and [fol. 141] by said decision and order that said figure of $60,704,000 was obtained by the Commission as set forth by plaintiff in said Paragraph X, Subdivision (d);

Denies that the rate base of $65,500,000 fixed by the Commission as "fair value" is shown by the said decision and order and by the evidence in the proceeding not to be the fair value determined in accordance with the law of the land, but to be a figure obtained as set forth by plaintiff in said Paragraph X, Subdivision (d); denies that in fixing said "fair value" figure the Commission totally ignored, and/or failed, and/or failed or ignored at all, to include therein any sum for going value; denies that the fact is that the evidence showed that the said properties of said company possess a going value of at least $9,228,667; denies that the company is entitled to any sum for cost of financing or cost of promoters' remuneration; denies that the evidence before the Commission showed that cost of financing to the company existed, and/or does exist, in the amount of at least $5,921,470, or any other sum, or at all; denies that the evidence before the Commission showed a cost to the company for promoters' remuneration in the sum of $2,500,000, or any other sum, or at all; denies that the actual requirements of plaintiff for materials and supplies and working cash capital are now and were during the year 1930, and will be in the future, not less than $2,946,585, but in this connection intervener alleges that the sum of $1,095,000 allowed to the company upon the evidence introduced before the said Commission was a fair and conservative figure;

(e) Denies that if the rates prescribed in said decision and order had been in effect during said twelve months'

period ending October 31, 1930, plaintiff would have earned as net revenue available for return a sum not in excess of $4,067,467;

(f) Denies that the gross and net earnings of plaintiff [fol. 142] during the calendar year 1931 and its annual earnings during the years immediately succeeding under the rates prescribed in said decision and order cannot be expected to exceed, and/or will not exceed, the results which would have been realized by the company for the twelve months' period ending October 31, 1930, under said rates as therein set forth.

VI

Answering the allegations of Paragraph XI of said bill of complaint, this intervener denies that unless the rates prescribed in said decision and order are enjoined and restrained as prayed for in said bill of complaint plaintiff will be compelled to charge, and/or collect, said rates, and that said rates will not, in the year 1931, and, in the immediately succeeding years, yield as a return upon the said properties of plaintiff used and useful in the service of the public a compensatory rate; denies that said rates as so prescribed by said decision and order are confiscatory, and/or are less than just and reasonable rates.

VII

Answering the allegations of Paragraph XIII of said bill of complaint, this intervener admits that said decision and order prescribed certain temporary optional rates, but denies that said temporary optional rates are unconstitutional, void and unlawful; denies that said temporary optional rates would not yield in 1931 or the immediately succeeding years a gross revenue in excess of 2% more than that which it is alleged would be yielded by the rates prescribed in said decision and order; denies that said temporary optional rates would fail to yield a fair return upon the fair value of plaintiff's property devoted to the public service; denies that the net return of $4,650,000 would be less than a fair return upon the fair value of the property of plaintiff used and useful in the service of the public during [fol. 143] the year 1931. This intervener further denies

that said decision and order is also unconstitutional, void and unlawful because it is in excess of and beyond the power of the Commission in that it is not the exercise of the power to fix just and reasonable rates, but is an attempt to direct, control and recapture the ownership, use and disposition of the funds and properties of plaintiff and is further an unlawful attempt to force and compel plaintiff to agree to a procedure which it is beyond the lawful power of the Commission to prescribe and enforce by offering it as an optional alternative to even lower rates which are of themselves unconstitutional, void and unlawful, or for any other reason, or at all.

VIII

Answering the allegations of Paragraph XIV of said bill of complaint this intervener denies that during the pendency of this proceeding, or at any other time, or at all, immediate and irreparable injury will ensue to the plaintiff because of said decision and order of the Railroad Commission of the State of California; denies that plaintiff has no plain, speedy, and/or adequate remedy at law.

For a further, separate and affirmative defense this intervener alleges:

I

That plaintiff has a plain, speedy and/or adequate remedy at law, in this: that the Public Utilities Act of the State of California provides for a judicial review of any order and decision of the Railroad Commission of the State of California. Said act provides that any party to a proceeding before said Commission may, within thirty days after the Commission renders its decision denying an application for a rehearing, apply to the Supreme Court of the State of California for a writ of review for the purpose of having [fol. 144] the lawfulness of the original order or decision of the Railroad Commission inquired into and determined.

Wherefore this intervener prays that the interlocutory judgment heretofore issued by this Honorable Court be dissolved and that plaintiff take nothing by its said action, and for such other and further relief as to this Court may seem

equitable in the premises, and for costs of suit herein expended.

Erwin P. Werner, City Attorney; Frederick Von Schrader, Assistant City Attorney; Loren A. Butts, Deputy City Attorney; Thurmond Clarke, Deputy City Attorney, Solicitors for Intervener, City of Los Angeles.

[fol. 145] *Duly sworn to by Robt. Dominguez. Jurat omitted in printing.*

[fol. 146] Form No. 282

RETURN ON SERVICE OF WRIT

UNITED STATES OF AMERICA,
Northern District of Calif., ss:

I hereby certify and return that I served the annexed Interlocutory Injunction on the therein-named Railroad Commission of the State of Calif. and C. L. Seavey by handing to and leaving a true and correct copy thereof with C. L. Seavey, who is President of R. R. Commission of State of Calif., personally, at S. F., Calif., in said District, on the 12th day of Jan., A. D. 1931.

Fred L. Esola, U. S. Marshal, by Harold Friedenberg, Deputy.

[fol. 147] IN UNITED STATES DISTRICT COURT

[Title omitted]

INTERLOCUTORY INJUNCTION

The President of the United States to C. L. Seavey, Leon O. Whitsell, Thomas S. Louttit, W. J. Carr, and Ezra W. Decoto, as members of and constituting the Railroad Commission of the State of California, and to their and each of their successors in office; and to the Railroad Commission of the State of California and its members, officers, attorneys, agents, servants, and employees and any and every person acting, or claiming, assuming, or

attempting to act, under and by virtue of the authority of said Commission; and to The City of Los Angeles, and its officers, attorneys, agents, servants and employees; and to any and all other persons, associations or corporations (municipal or otherwise) who now or shall hereafter seek and/or attempt to enforce Decision and Order No. 23102 of said Railroad Commission of the State of [fol. 148] California, dated November 24, 1930, Greeting:

Whereas it has been represented to us in the District Court of the United States, for the Southern District of California, Central Division, that Decision and Order No. 23,102 of said Railroad Commission of the State of California, dated November 24, 1930, is arbitrary and is not supported by the evidence before the Commission, and that said Decision and Order and the rates therein prescribed would, if enforced, have the effect of taking, without just compensation, the property of plaintiff devoted to public use, and of depriving plaintiff of that property without due process of law, and of denying to plaintiff the equal protection of the laws, under the Fourteenth Amendment to the Constitution of the United States; and from the evidence heard it appears probable that the facts are as represented, and that the legal result is as stated;

Now, therefore, you, the said C. L. Seavey, Leon O. Whitsell, Thomas S. Louttit, W. J. Carr and Ezra W. Decoto, as members of and constituting said Railroad Commission of the State of California, and your and each of your successors in office; and you the said Railroad Commission of the State of California, and your members, officers, attorneys, agents, servants and employees, and any and every person acting, or claiming, assuming or attempting to act, under and by virtue of the authority of said Commission; and you the said The City of Los Angeles, and your officers, attorneys, agents, servants and employees; and any and all other persons, associations and corporations (municipal or otherwise) who now or shall hereafter seek and/or attempt to enforce said Decision and Order No. 23,102 of said Railroad Commission of the State of California, are, pending the final decision in this action, strictly enjoined, under the pains and penalties which may fall upon you and each of you upon disobedience,

[fol. 149] From enforcing or attempting to enforce, and from advising, instituting, prosecuting and/or aiding in

any action, suit and/or proceeding under the laws of the State of California or otherwise to enforce, said Decision and Order No. 23,102 of said Railroad Commission of the State of California, against plaintiff and/or its officers, agents, servants and/or employees, or any of them;

From taking any steps and/or proceedings whatsoever, under or pursuant to or by virtue of said Decision and Order No. 23,102, or otherwise, and/or from advising, instituting, prosecuting and/or aiding in any action, suit and/or proceeding of any kind under the laws of the State of California to recover from, impose upon and/or enforce against plaintiff and/or its officers, agents, servants and/or employees, or any of them, any fine, penalty, damages and/or demand for failure and/or refusal to obey, observe and/or comply with said Decision and Order No. 23,102.

This injunction is granted upon condition that, pending final decision in this case, plaintiff shall file with the Clerk of this Court, in form and tenor first approved by the Honorable William P. James, District Judge of this Court, a good and sufficient bond, with sureties, in the penal sum of $200,000.

Witness the Honorable Curtis D. Wilbur, Judge of the Circuit Court of Appeals for the Ninth Circuit, and the Honorable William P. James, Judge of the District Court of the United States for the Southern District of California, and the Honorable F. C. Jacobs, Judge of the District Court of the United States for the District of Arizona, this eighth day of January, A. D. one thousand nine hundred thirty-one, and of the independence of the United States of America the one hundred and fifty-fifth.

R. S. Zimmerman, Clerk, by Edmund L. Smith, Deputy. (Seal.)

[fols. 150-153] Bond on injunction for $200,000, approved January 6, 1931, omitted in printing.

[fol. 154] Railroad Commission of the State of California, Fifth Floor California State Building, Civic Center, San Francisco, Cal.

Clyde L. Seavey, Pres. Commissioner; Leon O. Whitsell, Commissioner; W. J. Carr, Commissioner; M. B. Harris, Commissioner; Fred G. Stevenot, Commissioner; W. J. Handford, Examiner; Wm. T. Satterwhite, Examiner; W. R. Williams, Examiner; Thos. M. Gannon, Examiner; Ira H. Rowell, Examiner; Henry G. Mathewson, Secretary; W. P. Geary, Rate Expert; W. C. Fankhauser, Financial Expert; Arthur T. George, Attorney; E. T. McGetting, Chief Auto, State Dept.; Henry A. Frazier, Recorder; A. G. Mott, Chief Engineer; A. V. Guillou, Asst. Chief Engineer; C. C. Brown, Gas and El. Engineer; M. R. MacKall, Hydraulic Engineer; A. B. Fry, Tel. & Tel. Engineer; J. G. Hunter, Transportation Engineer; H. L. Engelhardt, Safety Engineer; P. E. Dufour, Valuation Engineer; A. T. Pettey, Official Reporter

Branch Office: 806 Associated Realty Building, Sixth and Olive Streets, Los Angeles

Telephone: MAdison 1271. Telephone: Underhill 8700

Address all communication- to Railroad Commission of the State of California.

Los Angeles, Califorina, June 2nd, 1931.

Honorable William P. James, United States District Court, Los Angeles, California.

Dear Sir:

In re Los Angeles Gas and Electric Corporation vs. Railroad Commission et al., No. S-105-J.

You will recall that I recently discussed with you the matter of the submission of the above case and it was my understanding from our conversation that it would be entirely satisfactory with the Court to have the case submitted without oral argument.

I have communicated with Mr. Phleger and Mr. Overton, Attorneys for Plaintiff, and am advised by them that they are agreeable to the submission of the matter without oral

argument. Copy of the letter of consent of these gentlemen is enclosed herewith.

Counsel for the Intervenors, City of Los Angeles and City of Pasadena, have authorized me to state that they are agreeable to the submission of the case without oral argument.

It is, of course, understood that if the Court, upon examination of the briefs, finds that any question involved is not completely covered therein or desires further discussion of any point involved in the case the matter may be assigned for such oral argument as the Court may desire.

Very truly yours, Arthur T. George, Attorney for Defendants.

cc. Mr. Phleger, Mr. Overton, Mr. Von Schrader, Mr. Diether.

[fol. 155] June 1, 1931.

Arthur T. George, Esq., Attorney Railroad Commission of the State of California, State Building, San Francisco, California.

DEAR SIR:

In re Los Angeles Gas and Electric Corporation v. Railroad Commission et al., No. S-105-J

We have received your letter of May 26, 1931, reading as follows:

"26 May, 1931.

Herman Phleger, Esq., San Francisco, California; Paul Overton, Esq., Los Angeles, California.

GENTLEMEN:

Los Angeles Gas and Electric Corporation v. Railroad Commission et al.

It has occurred to me that the decision in the above matter may be expedited by the submission of the case without argument. The matter has been carefully briefed by all parties, and I seriously question whether the Court would be benefited by argument. Being apprehensive that an early argument could not be had due to the vacation period being at hand, I recently inquired of Judge James as to the wishes of the Court in the Matter. He advised that submission without argument would be entirely satisfactory to the Court.

If it is satisfactory to you to thus submit the matter, I will be pleased to join in a stipulation to that effect. On the other hand, if you are desirous of presenting oral argument I wish you would so advise me.

Very truly yours, Arthur T. George.

Arthur T. George, Esq."

While we had anticipated that the case would be argued orally, in view of the statements in your letter, we agreed to your suggestion that the case be submitted to the court [fol. 156] without oral argument, it being understood, however, that if the court, upon examination of the briefs, finds that any question involved is not completely covered therein or desires further discussion of any point involved in the case, the matter will be assigned for such oral argument as the court may desire.

This letter may be filed with the Court as constituting a consent on our part to your suggestion that the case be submitted without oral argument. A duplicate copy is enclosed for this purpose.

Yours very truly, Herman Phleger, Paul Overton, Solicitors for Plaintiff.

HHP:EB.

[fol. 157] In United States District Court for the Southern District of California, Central Division

No. S-105-Eq.

Los Angeles Gas and Electric Corporation, a Corporation, Plaintiff,

vs.

Railroad Commission of the State of California, and C. L. Seavey, Leon O. Whitsell, Thomas S. Louttit, W. F. Carr, and Ezra W. Decoto, as Members of and Constituting said Railroad Commission of the State of California, Defendants, and City of Los Angeles, a Municipal Corporation, Intervenor

Herman Phleger, of San Francisco, California, and Paul Overton, of Los Angeles, California, Attorneys for Plaintiff.

Arthur T. George, Ira H. Rowell, and Roderick B. Cassidy, of San Francisco, California, Attorneys for Defendants.

Erwin P. Werner, City Attorney, and Frederick von Schrader, Assistant City Attorney, of Los Angeles, California, Attorneys for Intervenor.

Opinion

The plaintiff brought this suit claiming the right to have an injunction against the defendant, Railroad Commission of the State of California, and its members, to prevent the enforcement of an order of that Commission fixing a schedule of rates to be charged for gas service furnished [fol. 158] by the plaintiff. There was a motion for a temporary injunction and after preliminary oral argument, briefs were provided to be filed. Affidavits were received in evidence on the motion, and the Commission submitted also a transcript of all of the testimony presented before it on the rate hearing, which was received without objection. A restraining order issued under adequate bond pending decision. It was understood that the issues might be further argued orally before the court after the filing of briefs, but the parties later agreed that oral argument should be waived and that the entire case be finally submitted on the record. The court now approves that stipulation.

The California Railroad Commission has general jurisdiction over public utilities in California. It fixes rates for the service given the public and its authority to act as a regulatory body within the state is exclusive. In the latter part of the year 1929 it determined that a hearing should be held with the purpose of putting into effect a decreased schedule of rates to govern the gas service of the plaintiff. The questions are the usual ones occurring in such cases, the Company complaining of the use of a rate base below the fair value of its property and the Commission insisting that it has given full and fair consideration to every element of worth entitled to be included in the total. The Company makes the further claim that, assuming the correctness of the base figure, the return allowed is grossly inadequate.

While the plaintiff Company is engaged in furnishing both electricity for light and power, and gas for domestic

and industrial uses, its departments, both as to investment and operative instrumentalities, are separate and sepa- [fol. 159] rable. They have been so divided by the Commission for rate making purposes since a date more than twelve years past. Involved in the proceeding before the Commission was the matter of proper charges to be made by the Company for electricity, but the rates existing were not changed. They had last previously been reduced at the request of the Company in order to meet competitive rates established for service furnished by the City of Los Angeles. Therefore, there is nothing here presented which in any way involves the adequacy of charges for electricity.

The Commission established two valuation totals as for the gas department of plaintiff, one which is characterized the "historical cost", and the second, "present fair value". These totals were: Historical cost, $60,704,000; fair value, $65,500,000. On these valuations, the Company would earn a net annual return of 7.7 per cent. on the first amount, and 7 per cent. on the second amount. The Company claimed a fair value total of $95,767,351.

At a prior hearing had in the year 1928, the Commission had fixed a schedule of rates, which estimated upon the base then used, would produce a return of 7.5 per cent. The Commission determined at the hearing at which the rates now complained of were fixed, that the Company was actually earning under the then existing rates an excess over the estimate, to-wit: that it was earning 9.6 per cent. on historical cost base, and 8.8 per cent, on fair value base. The Commission stated in its opinion that experience had shown that the actual earnings under preceding schedules fixed by it exceeded its estimates. At the [fol. 160] hearing before the Commission, it was shown that there was a difference of only $300,000 between the historical cost valuation of the Commission and that of the Company. This excluded overheads. The Commission in its opinion declares, and the fact appears not to be disputed, that the historical cost valuation adopted by the Commission in 1917 (referred to as appraisal of 1915), was accepted as correct by both the Company and the Commission in the series of rate hearings held during the subsequent years. In the proceeding eventuating in the order here complained of, the Commission took the 1917 rate base and built up on that

to accumulate its final figures of historical cost. How the final figures were arrived at will be more particularly stated hereinafter. The change in the schedule of rates was designed to work a reduction of 9 per cent. in the gross income of the Company.

In considering the claim of the Company for a rate base exceeding $95,000,000, against the Commission's fair value base of $65,000,000, the point is suggested that if the large total which the Company claims represents reasonable fair value, then the old rates with which the Company was satisfied to work would be patently confiscation. This reflection is of no force to influence the decision to be made, except as indicating that the Company has not been over modest in proposing its totals.

Admittedly the task of rate making is one to be essayed only by specialists, men whose research into the problems of business economy with all of its variants of money cost, depreciation and commercial work, has given them pecu- [fol. 161] liar qualifications for the work. Rate cases when they are brought into court, come impressed with the presumption that the state agency to which has been committed the duty to regulate public utilities has dealt fairly with the business affected, and that in every matter wherein, under any view, a discretion can be said to have been fairly and reasonably exercised, the courts will not interfere with the orders made. A careful study of the record has been a task entailing considerable labor, but the conclusions resulting need not, in the statement of them, be of proportionate length. It has not been thought of helpful use to analyze in any detail the great mass of evidence, nor to particularly refer to the authorities cited in the elaborate argument presented.

It appears from the record that in the proceeding which culminated in the rate order complained of, the California Commission made a most thorough investigation. It devoted a total period of twenty-four days to the taking of testimony, the hearing being completed in July, 1930. The rate order was signed November 24, 1930. Expert witnesses on both sides were heard and the Commission had recourse to its records of other rate proceedings affecting the plaintiff corporation. It availed itself also of the knowledge gained from experience in dealing over a period of many years with like utilities. In its gas service de-

partment, operated within the City of Los Angeles, the plaintiff is confronted with no real competition.

Referring to the growth and stable position of the Company in its entire business (gas and electric), the Commission in its opinion said (and the evidence supported the statement):

[fol. 162] "The rate base for the gas department has grown from approximately $12,500,000 in 1916 to nearly $59,000,000 in 1929, and its independent active meters from 131,500 during the same period. * * * This remarkable growth has been financed largely by the sale of the company's bonds and preferred stock. These have been marketed at a gradually lessening cost, so that the present annual cost of its bond and preferred stock money normally is 6.17 per cent. Also, its depreciation reserve has been invested in the property. If this be included with its bond, preferred stock money at the rate of 6 per cent being the rate at which it is required to account for its reserve, the annual cost of its bond, preferred stock and reserve money is but 6.14 per cent. On December 31, 1929, the Company had outstanding in the hands of the public $47,070,000 par value of bonds, $19,469,995 par value of preferred stock, and $20,000,000 par value of common stock. Its depreciation reserve (gas and electric) on that date was reported at $16,804,105.15. All of its common stock is owned by Pacific Lighting Corporation. Since 1916 but $4,500,000 of this stock has been purchased for cash, $5,500,000 however, having been distributed to Pacific Lighting Corporation in the form of stock dividends, representing earnings left in the property. Dividends have been paid on its common stock of 7.20 per cent per share ($100 par value) in 1916, 1917 and 1918; 7.4 percent in 1919; 8.4 percent in 1920, 1921 and 1922; 8.7 percent in 1923; 33.75 percent in 1924, included in which is 25 percent as a stock dividend of $2,500,000; 9 percent in 1925; 9.815 percent in 1926; 35.17 percent in 1927, which includes a stock dividend of 21.42 percent, or $3,000,000; 15 percent in 1928, and 17 percent in 1929. The Company's surplus has grown from $381,212.97 in 1916 to $4,176,663.09 in 1929, while its depreciation reserve increased from $3,804,383.36 to, as said above $16,804,105.15."

Approximately 60 per cent of the stock and bond money is chargeable to the gas department. Of the outstanding

$20,000,000 in common stock, $9,993,000 was reported as having been issued for property, and $10,700,000 as for cash, or in lieu thereof, at par. The Commission was unable to [fol. 163] give a cash value to the stock issued for property and held that the rate of dividends on the common stock did not establish cost of common stock money. The Company had claimed a cost rate of 8½ per cent on its common stock. The Commission's evidence was that were this rate applied to the common stock as insisted, the annual cost of the Company's capital proceeds would be 6.62 per cent. Commenting on its findings that the annual cost to the Company for its bond and preferred stock money was 6.17 per cent, the Commission said:

"However, just as the assumption that the Company's property was constructed at prices now current increases the actual cost figure, so a similar assumption that the Company was financed on the bases of current money cost would reduce the figure of 6.17 per cent to 5.64 per cent."

If the experience of the Company under regulation has been, as the Commission finds, that returns have exceeded estimates, then it may well be that its net will be greater than the per cent allowed under the last rate schedule. With a history of successful and profitable business, and no real competition to meet in its field of service, the hazard is small and the probabilities of continued demand assured. Electricity has not to any great extent supplanted gas as a fuel. All of the conditions noted, as affecting the business of the Company, sustain the Commission in its statement that the plaintiff's securities are capable of being marked at moderate interest rates, and that it will continue to grow.

The Company produced two witnesses having familiarity with financial investment conditions, who testified that risks and uncertainties of the business considered, the Company should earn more than 8 per cent on the fair value of its [fol. 164] property. The Commission was correct in saying that it was not to be controlled by this testimony in the face of facts before it. It cannot be said that, assuming the reasonableness of the base amount used, the rates prescribed would not produce a fair return.

The Company claimed the historical cost of its property to be approximately $5,000,000 more than the amount fixed by the Commission. It claimed the right to charge 24.27 per

cent to capital account as representing overheads from 1913 to 1929, which the Commission disallowed in large part. It claimed a "going concern" value of $9,228,667, which was rejected by the Commission, as were items designated as cost of financing, $5,921,470; promoters' remuneration, $2,500,000. The Company on its physical operative property, excluding overheads, land and intangibles, estimated historical cost as $51,661,374; and cost of same, applying unit prices as of December 31, 1929, as $57,871,271. The above were the large items expressing the disagreement as to valuation between the Company and the Commission.

The Commission included in the historical value base as for franchise value an amount of $14,391.23; and as original cost of organization, (derived from records of the Company) $415,734.71. Lands were included as of fair value of $3,500,000 as of December 31, 1929—which was approximately $1,775,558 in excess of original cost.

The Commission was very liberal in its treatment of certain items of property. The Company in its early operations furnished artificial gas. Since 1924 it has served natural gas, which is plentiful in the numerous oil fields in Southern California. There is no evidence which discredits the Commission's conclusion that the supply of natural gas will be abundant and constant. The Commission found in [fol. 165] effect that at least two of the artificial gas manufacturing plants of plaintiff were no longer needed and might well be retired. Nevertheless, it included them in its valuation as a live necessary part of the operative property. It appears that had these plants been eliminated the fair value base would have been reduced by approximately $3,000,000.

In explaining the method by which it reached the valuation totals, the Commission referred to testimony of its engineers. These were men of apparently wide experience in the work assigned to them. Witness Dufor testified (we refer both to Commission's record and affidavit here) that as an engineer, having a duty to place valuations upon property of interstate railroads, he was employed from 1915 to 1921 by the Interstate Commerce Commission. He had served with the California Commission since March, 1921. He testified that the valuation division of the Commission under his charge maintained a cost bureau which was used continuously for the collection of information regarding

material and labor costs, and in making analyses of actual purchases by representative public utility corporations within the state, and also securing quotations from vendors. He testified that the trend of material and labor costs was downward; that the unemployment situation made available an unusual number of men suitable and capable to perform such work as was required by the plaintiff Company. The method employed to obtain present costs as of June 15, 1930, was to take the 1915 appraisement as used by the Commission at the 1917 hearing, and add thereto the cost of all articles and property included in additions and betterments, as those items were particularly shown on the books of the Company, and then convert such cost prices to ruling price levels as of June 15, 1930. He made a compara- [fol. 166] tive analysis by applying prices prevailing December 15, 1930; and another comparison, under which he assumed a four year construction period from January 1, 1926, to December 31, 1929, applying average prices prevailing during that time. Under each of these estimates, the total valuation figure arrived at was less than the proportionate fair value base which the Commission adopted. In the estimate which assumed a four year construction period with average prices, the engineer included overhead charges of 22.32 per cent. On his proceeding estimates, his overhead charges were computed at 6 per cent.

The engineer, in his affidavit, declared, and his statement corresponds to the declaration of the Commission as found in its opinion, that

"current price level cost represents the cost of the properties as they existed on December 31, 1929, assuming that the properties were put together historically, but that during the entire life and development of the properties, prices and unit costs had been continuously at the level prevailing on June 15, 1930."

What the Commission did then in reaching its base rate figure of fair value was to include all items of property used and useful in the operative plant of the plaintiff, and appraise the value thereof at current market prices. It included original organization costs and franchise value as well. It assumed a live active plant, and affirmed that the

cent to capital account as representing overheads from 1913 to 1929, which the Commission disallowed in large part. It claimed a "going concern" value of $9,228,667, which was rejected by the Commission, as were items designated as cost of financing, $5,921,470; promoters' remuneration, $2,500,000. The Company on its physical operative property, excluding overheads, land and intangibles, estimated historical cost as $51,661,374; and cost of same, applying unit prices as of December 31, 1929, as $57,871,271. The above were the large items expressing the disagreement as to valuation between the Company and the Commission.

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In explaining the method by which it reached the valuation totals, the Commission referred to testimony of its engineers. These were men of apparently wide experience in the work assigned to them. Witness Dufor testified (we refer both to Commission's record and affidavit here) that as an engineer, having a duty to place valuations upon property of interstate railroads, he was employed from 1915 to 1921 by the Interstate Commerce Commission. He had served with the California Commission since March, 1921. He testified that the valuation division of the Commission under his charge maintained a cost bureau which was used continuously for the collection of information regarding

material and labor costs, and in making analyses of actual purchases by representative public utility corporations within the state, and also securing quotations from vendors. He testified that the trend of material and labor costs was downward; that the unemployment situation made available an unusual number of men suitable and capable to perform such work as was required by the plaintiff Company. The method employed to obtain present costs as of June 15, 1930, was to take the 1915 appraisement as used by the Commission at the 1917 hearing, and add thereto the cost of all articles and property included in additions and betterments, as those items were particularly shown on the books of the Company, and then convert such cost prices to ruling price levels as of June 15, 1930. He made a compara- [fol. 166] tive analysis by applying prices prevailing December 15, 1930; and another comparison, under which he assumed a four year construction period from January 1, 1926, to December 31, 1929, applying average prices prevailing during that time. Under each of these estimates, the total valuation figure arrived at was less than the proportionate fair value base which the Commission adopted. In the estimate which assumed a four year construction period with average prices, the engineer included overhead charges of 22.32 per cent. On his preceeding estimates, his overhead charges were computed at 6 per cent.

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What the Commission did then in reaching its base rate figure of fair value was to include all items of property used and useful in the operative plant of the plaintiff, and appraise the value thereof at current market prices. It included original organization costs and franchise value as well. It assumed a live active plant, and affirmed that the

ultimate total included all costs of attaching business as the same had accrued and been accounted for. Its fair value figure, assuming the correct estimate and allocation of items hereinafter referred to, was one which essentially represented the investment cost at the present time, of all the operative property and its connected incidentals. [fol. 167] The Commission used the books of the Company, which furnished it with the details and items in complete form. Other engineers who testified as to valuation figures, declared under oath that they were familiar with the properties of the plaintiff and had made a thorough and exhaustive study of all the matters as to which they gave information, and upon which the Commission based its order. An examination of the voluminous record, including the innumerable tabulations showing the various comparisons made, demonstrates that there was no lack of attention to every element and item which would assist the Commission in arriving at what it deemed to be a fair value figure.

Leaving out of view for the moment the matter of overhead charges, we feel satisfied that the Commission was justified in making use of the cost appraisal amount fixed in its order made in the year 1917. This amount was arrived at after an exhaustive investigation. The books of the Company were determined to have been accurately kept and different items of property were completely segregated so that additions and betterments' costs were easily ascertained. Where a utility Company in rate proceedings adopts as correct, an amount fixed in an initial order made at the time it came under regulation, it ought not to be permitted to assail that amount at this time on the ground that it is inaccurate.

The matter of overhead charges has a somewhat different aspect. The Commission's allowance of 6.35 per cent, for overheads was due in part to the position in which the Company had voluntarily placed itself. In the hearing which resulted in the first order made affecting the Company's rates, the Company was advised that a larger amount of overhead might be charged to capital than it [fol. 168] had customarily charged on its books to that account theretofore. These overheads occurred by reason of expenditures for engineering, superintendence, interest and taxes during construction, injuries and damages, legal

services, etc. The Company might, in its operative department, make use of the same organized agencies as were used also in the construction of extensions and additions to its plant and operative facilities. Operative expense generally incurred in rendering the service was chargeable to expense and hence would be a deductible item from gross income, while overheads incurred for extensions, betterments and additions would augment capital account. The Commission had adopted rules under which such segregation was to be made. The Company proceeded, however, through all the years from 1913, to charge to capital account overhead costs amounting to less than an average of 6 per cent. In the last proceeding, that here reviewed, the Company sought to reform its accounts and charge an overhead of 24.27 per cent. The Commission, in referring to that matter in its opinion, said:

"In the initial case involving the gas rates of this Company a rate base was fixed including overhead charges substantially higher than those charged by the Company in preceding years and approximating those now claimed. The Company was thus fully apprised of a basis of assigning to capital certain general charges allocatable in part to capital and in part to operation. Notwithstanding the fact that it was thus definitely advised of the propriety of allocating more of these to capital and less to operation, the Company, in subsequently making these splits or allocations, saw fit to allocate on its books the bulk of these to operation much as it had done prior to 1917. Under the uniform system of accounts a considerable range of dis- [fol. 169] cretion in making allocations such as here involved rests with the Company. Either the responsible accounting officers of the Company made these allocations in the exercise of their best judgment at the time when all of the facts were fresh in their minds or, for reasons presumably to the advantage of the Company, deliberately undercharged capital and overcharged operation. In the various proceedings before the Commission it reported additions and betterments, as well as operating expenses, based upon its books and the allocations there recorded. The findings of the Commission indicate that determination as to rates went on the assumption that such allocations were properly made."

It is true that one of the valuation engineers for the Commission testified that the Company might properly have charged to capital 11.25 per cent on account of overheads. Nevertheless, the action of the Commission in this regard, we think, was reasonable. The fact was that the Company, declining to follow the suggestion of the Commission that it assign to capital a greater amount of overhead expenditures, charged all of such expenditures exceeding approximately 6 per cent of the total thereof to operative expense, with the result that it has had during successive years the benefit of a much reduced net income figure, by the use of which in turn, its rate charges have been increased.

From the fair value base, as used by the Commission, accrued depreciation was not deducted. The matter of accrued depreciation became important as affecting the annuity allowance considered in arriving at prospective income. The amount allowed by the Commission as depreciation annuity was the sum of $1,072,000. The Company claimed that the annuity should be not less than $2,344,744. The Commission marked the inconsistency of the claim of the Company to such a large amount for annuity depreciation, when it was claiming that the total accrued [fol. 170] depreciation affecting its property was only the sum of $3,470,326. This notwithstanding that the accumulated depreciation reserve for the gas department on December 31, 1929, amounted to $9,350,689. The Commission's engineers computed depreciation amounts under straight line and sinking fund methods to be respectively $15,345,154. $7,774,867. The sinking fund method figure of $7,774,867 was the one referred to in the Commission's opinion, and it appears that the method employed corresponds to the accounting practice of the Company. It is to be noted that under accepted rules as between straight line and sinking fund methods, the sinking fund base is undepreciated, while the straight line base is a depreciated base.

From the evidence presented, it appears quite clearly that annuity depreciation allowances made prior to the date of the rate hearing here concerned were in excess of what the Company could properly claim. Prior allowances, if excessive, were not controlling. Depreciation was a matter not capable of definite ascertainment, and the Commission had the right to use its judgment under all of the

facts displayed before it, aided in weighing the evidence by its experienee in dealing with this Company's property and other like utilities, and to adopt a per cent depreciation rather than the amount deducted by the Company. It is not demonstrated by any evidence that the allowance made by the Commission as for depreciation annuity for the future would not, in its amount, be equivalent to the replacement outlay at going costs.

The large amounts claimed by the Company for cost of financing, $5,921,470; promoters remuneration, $2,500,000; cost of attaching business (going concern value) $9,228,667; [fol. 171] added "difficulty" costs, $580,195; we think were properly rejected as for their total amounts. The Company's claim was that these sums should be added to the present investment cost of its property on the theory that in fixing fair value it was entitled to asume an original venture to be promoted and built up over a contemplated period of eight years, saying, in effect:

"If we were starting today to develop our business anew, without capital or customers, all of the amounts enumerated would probably be expended."

Basically, the object of an appraisement for rate making purposes is to find the full value of the investment in the business. The investment is represented by the value of the property used and necessary in the business—not what it would cost to promote and establish a like business starting today.

In fixing the estimated income for the future, the Commission adjusted its figures to average temperatures. The Company complained that at least the two preceding years had been attended by unusually high temperatures and consequent diminished demand for gas and that it was improper to assume average temperatures. And yet the practice adopted was fair. We may note that the winter of 1931-32 in the City of Los Angeles, as it has thus far progressed at the end of January, has been one of the coldest in many years. And so, the rule of assumed average temperatures seems to be the only reasonable one to adopt. During unusually mild winters the utility service will earn less than was estimated to be allowed to it, and in colder winters will earn more. The Commission recommended that a temperature reserve be established by the Company

and prescribed an alternate set of rates, to produce a larger [fol. 172] return with a condition that the excess should feed the temperature reserve fund, so that income could be equalized between lean and productive years. This was not accepted by the Company.

There were other amounts affecting the rates, which as to their kind and allocation were agreed to have been properly assigned, but as to the sufficiency of the allowances thereof the Company made objection. For materials and supplies held for construction, the Company claimed $612,735. The Commission allowed $450,000. The Commission was presented evidence showing that the average value amount of materials and supplies kept on hand by the Company for the years 1927-1928 and 1929 was $612,735; and that in 1929 the amount was $571,000. The allowance of $450,000 for the year 1930 cannot be said to be arbitrary. The Commission was authorized to determine within reason and fairness what sum would cover future needs.

For working cash capital, an amount of $2,333,850 was claimed; $645,000 was allowed. This item was to cover delayed income receipts, occasioned by the wait between time of delivery of gas to the consumer and collection of the charges. In brief, the Company claimed a sum representing total earned amounts at retail prices. The Commission found that cost of service should be considered, rather than retail charges, which latter would include profit. It considered, in computing the amount, the fact that the Company, in its purchase of natural gas, was extended thirty days credit. An offset was accordingly charged against the expense total in arriving at the result. We think the method used was a proper one.

Some smaller items were involved which in their amounts would not require a different decision, regardless of how they might be treated.

[fols. 173 & 174] It is concluded that the plaintiff is not entitled to the relief demanded, and that its prayer for an injunction should be denied. Decree will be entered accordingly.

Dated April 8, 1932.

Wm. P. James, U. S. District Judge.

Concurring:

F. C. Jacobs, U. S. District Judge.

[fol. 175] In United States District Court for the Southern District of California, Central Division

In Equity. No. S-105-J

Los Angeles Gas and Electric Corporation (a Corporation), Plaintiff,

vs.

Railroad Commission of the State of California and C. L. Seavey, Leon O. Whitsell, Thomas S. Louttit, W. J. Carr, and Ezra W. Decoto, as Members of and Constituting said Railroad Commission of the State of California, Defendants

Before Wilbur, Circuit Judge; James and Jacobs, District Judges

Concurring Opinion

Wilbur, Circuit Judge, concurring:

The Los Angeles Gas and Electric Corporation, hereinafter called "the Company" filed its bill in equity to restrain the enforcement of gas rates fixed by the Railroad Commission of the State of California upon the ground that the rates so fixed were confiscatory, to which an answer was filed by the Railroad Commission. Affidavits were filed by the plaintiff in support of a motion for temporary injunction. The Railroad Commission filed affidavits in reply and the City of Los Angeles and the City of Pasadena intervened and filed affidavits in support of the rates fixed by the California State Railroad Commission, which will hereinafter be referred to as "the Commission." Upon a hearing before the statutory court a temporary injunction was issued upon the giving of a satisfactory bond. This injunction resulted partly from the stipulation of counsel facilitating the disposition of the case. It was stipulated that the entire evidence which had [fol. 176] been adduced before the Commission should be introduced and considered by this court upon its final determination of the issues involved, and this evidence, with the affidavits filed upon the motion for temporary injunction, should constitute the entire record for the consideration of the court. The case was thereupon submitted for

decision upon the argument already presented upon the motion for an interlocutory injunction and upon briefs to be thereafter filed on behalf of the parties. Elaborate briefs were carefully prepared and present with great precision and emphasis the respective views of the parties. The method adopted for the presentation of this case has much to commend it. One of the great difficulties in the determination of cases involving the claim that rates fixed by public utility commissions are confiscatory and in violation of the federal Constitution has arisen from the fact that the issue of confiscation is tried de novo in the federal court, the theory being that the sole concern of the federal court is with the question of confiscation, and that the function of the court so far as it relates to rate-making is to determine whether or not the rates fixed yield a return which is below the absolute minimum required to avoid confiscation. It has long been recognized by the federal court that if the rate-making bodies would make specific findings of fact with relation to value and return, and particularly if they would make findings clearly showing that they had considered all the elements of value required by the decision of Smyth v. Ames, 169 U. S. 466, and subsequent rate cases, to be considered, the work of the court would be much simplified, and that while the federal courts must of necessity, in the use of their constitutional authority, exercise an independent judgment as to value and rate of return, the determination of the rate-making body upon [fol. 177] conflicting evidence as to the various elements to be considered in arriving at the value, and in the just determination of the rate to be arrived at by consideration of these elements of value, is entitled to great, though not controlling, weight. In the earlier stages of rate-making, when the problems involved were not thoroughly understood and some of the elements of value and expense were ignored, it sufficed if the court declared the particular rate to be less than the minimum permitted under the Constitution, and therefore enjoined the enforcement of the particular order involved, leaving the rate-making body to fix its rate at some point in excess of the minimum. As the constitutional principles established by the courts were better understood by those engaged in rate making and more thoroughly developed by the courts, the exercise of a mere veto power on the part of the courts became increasingly

unsatisfactory. The Supreme Court has always disclaimed either power or disposition to fix rates of public utilities, or any ability to do so, with the time and facilities at its command. Nevertheless, in later cases it has become desirable that the action of the court enjoining the enforcement of a rate established by a local rate-making body should be sufficiently definite and certain to serve as a guide for the rate-making body in a reconsideration of the problem. To that end in recent cases the Supreme Court has required findings of fact by the District Court acting as a statutory court and these findings inevitably involve the fixing of a minimum fair return upon the property of the public utility. It is of course unnecessary in such findings to determine either of the elements essential in rate-making; that is, the fair value of the property and a fair rate of return thereon. It is only necessary to determine whether or not in the given instance the Railroad Commis-[fol. 178] sion has placed the income below the irreducible minimum. The Commission fixed the fair value of the Company's property at $65,500,000 and determined that 7 per cent net was a fair return upon this value. The Company claims that the fair value should have been fixed at not less than $95,000,000, and a fair return at not less than 8 per cent. In brief, the Company claims that nearly $30,000,000 ($29,500,000) of its capital has been appropriated without compensation by refusal to give any return thereon, and that of the balance, capital sufficient to return an income of $655,000 (1% of $65,500,000) at 8 per cent has also been confiscated, that is, $8,187,500, so that the total amount plaintiff claims will be confiscated by the proposed rates is $37,687,500 ($29,500,000 plus $8,187,500). Sixty per cent of the Company's property is devoted to the gas business and forty per cent to the electric business. Electric rates are not involved here. The amount thus claimed to be confiscated is almost double the par value of the entire common stock ($20,000,000) of the Company and more than three times the amount thereof properly apportioned to the gas business ($12,000,000). In view of the fact that it is admitted that the proposed gas rates fixed by the Commission will pay interest on that portion of the bonded indebtedness apportioned to the gas business (60 per cent of $44,341,480 equals $26,604,888) at 5.96 per cent and upon the preferred stock so apportioned (60 per cent of $17,330,-

317 equals $10,398,190) at 6.72 per cent and upon the common stock apportioned to the gas business (60 per cent of $20,000,000 equals $12,000,000) at 8.50 per cent, which is said to be the cost of such bond and stock money, or upon a total investment of $59,003,078, interest at about 7.94 per cent, it is obvious that the contentions of the company [fol. 179] should be scrutinized with care. On the other hand, as it is conceded by the Commission that it has consistently throughout its history as a rate-making body, followed the theory advanced by the minority members of the Supreme Court, particularly those advanced by Justice Brandeis and Justice Holmes in their numerous dissenting opinions, and has declined to follow the majority opinions of that court, which of course are authoritative and binding upon all courts and rate-making bodies, it is equally true also that the contentions of the Commission must be scrutinized with care. The Commission, in that regard, states its position in its opinion in the case at bar as follows:

"This Commission for many years, in the exercise of its jurisdiction to establish reasonable rates for utilities of this character, has fixed rates to yield *upon the historical or actual cost of the property, taking land, however, at current values and depreciation calculated on a sinking fund basis, a return somewhat in excess of the cost of the money invested in the property.* Where the books were accurately kept these have been deemed to most accurately reflect the actual cost of the structural and other property. Sometimes, when these were not reliable, it has been found necessary to estimate what it cost to produce the whole or parts of the property historically. (Re Coast Valleys Gas & Electric Co. (1917) 14 C. R. C. 460; Southern Sierras Power Co. (1920) 18 C. R. C. 818; Southern California Edison Company (1921) 19 C. R. C. 595, and (1923) 23 C. R. C. 981; San Joaquin Lt. & Pr. Corp. (1922) 21 C. R. C. 545; Pac. Gas & Elec. Co. (1922) 22 C. R. C. 744; Great Western Power Co. (1923) 22 C. R. C. 814; Pac. Tel & Tel. Co. (1929) 33 C. R. C. 737).

"Under rates fixed on this basis utilities of this character have grown strong and prosperous. They have experienced no difficulty in securing capital for extensions and new development. Confidence in investments in such utilities has increased and capital has flowed to this field of investment

readily and at a gradually decreasing rate or cost." (Italics ours.)

The Commission, of course, recognizes that the rule for the valuation of public utility property has been thoroughly and definitely settled by the Supreme Court and concedes [fol. 180] that its conclusions must be measured by that standard. It nevertheless contends that full consideration has been given to every element of value required to be considered, and that the valuations fixed by it in the case at bar are sustainable on either the theory of the majority or dissenting opinions of the Supreme Court. With these conflicting considerations in mind and before a detailed analysis of the subject, it should be stated that the larger elements of disagreement fall under two or three heads which can be separately considered, but before stating them we will consider in broader lines the contention of the respective parties. We do this because as to many of the facts entering into the problem the disagreement between the parties is comparatively trivial.

The Commission states that the actual cash invested by the Company in the gas properties of the Company is $58,772,799. The amount of bonds and stocks attributable to the gas business, as above stated, is slightly more ($59,003,078.). That is to say, the stock, bonds and preferred stock money invested in the gas business of the Company is from six to seven millions less than the rate base fixed by the Commission. It is certainly satisfying at the outset of an investigation of alleged confiscatory rates to realize that the rate fixed is at least sufficiently high so that stockholders, as well as bondholders, are actually receiving a fair return upon their money invested, as distinguished from what may be determined to be a fair rate upon the value of their property devoted to public use.

In this connection it should be observed that under the practice of the Commission of basing its rates upon the historic cost or prudent investment theory, the stockholders are protected in their investment even if they do not reap [fol. 181] the profits which are justly theirs under the rule established by the Supreme Court. Under this system adopted by the Commission it should be stated that the holders of the common stock, although theoretically subject to the greatest hazard in the business, are protected

in large measure from the hazards due to fluctuations in value of the property in which their money is invested and have the advantage of deriving as income upon their stock and as a profit upon their investment, the difference between the interest paid to the bondholders and holders of preferred stock and the rate fixed by the Commission. In this connection it is interesting to observe that the holders of common stock would have their entire capital investment returned to them by way of dividends in about three years with the present financial set-up of the Company and with the rates contended for by it (8 per cent), so that their investment which is now largely derived from their profits under state regulation would be completely reimbursed in that short period.

In making these observations we are not to be deemed as accepting the rate-making system repudiated by the Supreme Court, which the Commission itself acknowledges is erroneous, but the fact that the Company has been largely financed under this system shows that the historic cost element of value should, perhaps, be given greater consideration than would be the case where a rate-making body for the first time fixes the rate of a going concern which has been financed without interference or supervision by the public officials. Here it should be stated that under the California system the Commission not only fixes rates, but has authority to determine the terms upon which and amounts for which stock and bonds of a public utility may be financed, and the Company in this instance has pro- [fol. 182] cured most of its capital under this supervision. In addition it has set up a bookkeeping system in accordance with the general rules of the Commission and as a result various items entering into the valuation of the Company's plant can be readily determined. The expert testimony of competent engineers, in this case, is largely based upon these books. We have already indicated the manner in which the historic cost of the plant has been determined by the Commission.

At this juncture and before further discussion of the method of valuation adopted by the Commission and that contended for by the Company, we will indicate the most important points of difference as to such values. The first difference is an item of $9,288,667 for going concern value.

The next large item is that of overhead of $9,144,988. It it next claimed that an excessive deduction was made by the Commission for the accrued depreciation to be deducted from the value of the property new. It is claimed that this deduction was excessive by $4,179,674. In addition, the Company claims $5,921,470 as estimated cost of financing. These factors, aggregating about $30,000,000, account in large measure for the $30,000,000 difference in value between the amounts fixed by the Commission and the amount claimed by the Company as the fair value of its property.

Before entering upon a discussion of these differences, it should be stated that the Commission, in its opinion, most carefully considered these elements. It cannot be claimed that it ignored them unless the theory of its decision had that inevitable effect. It is conceded at the outset with reference to going value that this element must be considered in fixing the rate base (McCardle v. Indianapolis Water Co., 272 U. S. 400).

[fol. 183] Relation of Overhead, Going Concern Value, and Promotion Expenditures

In view of the fact that the Company is claiming nearly $25,000,000 for the sum of these three items in its claim of value in addition to the amounts allowed by the Railroad Commission, and as these items constitute the major part of the claim of the Company insofar as it relates to valuation, it should be stated at the outset that these three elements of value are more or less interrelated. Whether or not a given expenditure is to be treated as an element of the cost of construction, or of maintenance, or operation, is more or less a matter of judgment. Some or all of the expenses of promoting an enterprise may be appropriately considered as overhead charges and carried upon the books of the corporation as such. It is also true that expenditures involved in giving life to the dry bones of the enterprise, may be treated as overhead charges, or as annual expenditures. That is to say, actual or assumed expenditures, for the purpose of producing the various results entitled to consideration as going concern value, or to be considered overhead, may be carried as promotion expenditures or treated as capital expenditures for attaching business involved in going concern value or as items of

overhead, or they may be included in the allowance of annual expenditures charged against the income of the corporation. See Des Moines Gas Co. v. Des Moines, 238 U. S. 153; McCardle v. Indianapolis Water Co., 272 U. S. 400. The importance of these observations which are sufficiently obvious, lies in the fact that the Commission failed to make a specific findings of going concern value upon the theory that the costs considered and allowed by it in determining the historic cost of the property included the cost [fol. 184] of the acquisition of the going concern value, and that the allowance of $65,500,000 as a rate base was made in full recognition of the going concern value, and that in determining the historic cost it had in effect appraised the going concern value. We quote from the opinion of the Commission to that effect as follows:

"The Company claims $9,228,667 as going concern value, based largely upon the testimony of Col. Alten S. Miller. * * * Were going concern to be treated as an independent item of value, it should be measured with due regard to actualities rather than upon theories and assumptions such as employed by Col. Miller. And it would seem that what it did cost this Company to attach its business is a far more reliable guide than an estimate of what it might cost under a theoretical reconstruction program. By the prescribed accounting rules all costs incident to attaching business are required to find lodgment in New Business Expense. Col. Miller's position in essence is an attack upon the classification of New Business Expense as an operating item, his line of reasoning inferring that this expense should have been added to capital year by year. Were new business expense to be added to capital the corollary would be its elimination from operating expense. No very appreciable change in result would follow from allowing a reasonable amount in rate base to represent the cost of attaching the business (following largely Col. Miller's theory but reducing theory to actuality) and at the same time disallowing New Business Expense in operation.

"It is true that Col. Miller includes in his total figure $506,789 as 'cost of organizing property and personnel' but he does not attempt to explain how this figure is arrived at. The actual cost of building up the personnel and organizing the property has of course, under accounting procedure

and Commission practice, been included in current operating expense, and if viewed in the light of capital expenditure, just as in the case of the cost of attaching the business, has been taken care of and in effect amortized year by year as incurred.

"Substance rather than form is to be considered. So viewed, this Commission does allow for the so-called intangible going concern value by treating its cost as a current operating expense."

[fol. 185] In its reproduction cost it rejected the two items for promotion and financing aggregating 7½ million dollars as unwarranted by the experience of the Company, but it included in its estimate items which it held reasonably corresponded to these items as reflected by the actual history of the Company. So far as the rejection of the two items just referred to is concerned, we think the Commission was correct in its conclusion if the regulation of rates is to be kept within the domain of practicality rather than fancy. (See Galveston Elec. Co. v. Galveston, 258 U. S. 388.) It is undoubtedly true that the engineers, in estimating reproduction costs, may fairly include items which in their judgment would be involved in the reconstruction of the whole enterprise. It does not follow that these figures must be accepted by the Commission or by the court as items to be included in its actual value. It is no disparagement of the engineers to reject this testimony for the reason that reproduction cost, while necessary to be considered, is not the measure of the rate base, but an element to be given such weight as in the judgment of the rate-making body, and subsequently, of the court, is justified by the facts. As stated by Mr. Justice Brandeis, in McCardle v. Indianapolis Water Co., 272 U. S. 400, in his dissenting opinion:

"There is, so far as I recall, no statement by this court that value is tantamount to reproduction cost."

And as stated by Mr. Justice Stone, in his dissenting opinion, in St. Louis & O'Fallon Ry. v. United States, 279 U. S. 461:

"This court has said that present reproduction costs must be considered in ascertaining value for rate-making

purposes. But it has not said that such evidence, when fairly considered, may not be outweighed by other considerations affecting value, or that any evidence of present [fol. 186] reproduction costs, when compared with all the other factors affecting value, must be given a weight to which it is not entitled in the judgment of the tribunal 'informed by experience' and 'appointed by law' to deal with the very problem now presented."

The rule was stated by Justice Brandeis, speaking for a majority of the Supreme Court, in Georgia Ry. and Power Co. v. Railroad Commission (1923), 262 U. S. 625, 630, as follows:

"The refusal of the Commission and of the lower court to hold that, for rate making purposes, the physical properties of a utility must be valued at the replacement cost, less depreciation, was clearly correct."

Among the facts to be considered in determining value is the actual practical history of the enterprise as developed by the evidence. Galveston Elec. Co. v. Galveston, 258 U. S. 388; Greencastle Wtr. Wks. Co. v. Pub. Service Comm., 31 F. (2d) 600; Georgia Ry. & Pr. Co. v. Railroad Comm., 262 U. S. 625; Colorado Power Co. v. Halderman, 295 Fed. 178; City of Winona v. Wisconsin-Minnesota Lt. & Pr. Co., 276 Fed. 996.

Overhead Charges

The contention that a portion of the overhead properly chargeable to a new enterprise or to reproduction value has been absorbed in current expense charges, and should not be again allowed as a capital expenditure, is even more emphatically and definitely urged.

During its history the company has kept its books in such fashion as to reflect in the historic cost that portion of the general expenses of the company it had determined were to be added to the capital investment and the portion which [fol. 187] it claims should be paid from the current revenue of the company as an expense. The historic cost, therefore, as determined from its books, would include only that element of overhead which the company had charged on its books as a capital expenditure. The Commission contends

that it would be inequitable to permit the company to shift its ground after it has for years treated a portion of its expenditures as necessary expense incidental to its business to be deducted from the gross revenues, and now to claim that this amount, which it has already received as an incidental expense to be deducted from its gross revenue, should itself be treated as an investment upon which it must receive future income. Thus, it is claimed the consumers are required not only to furnish the capital in the first place, but also to pay income upon the capital so furnished. The Supreme Court, however, has so definitely and emphatically held that the company is entitled to a reasonable rate of return upon the fair value of its property regardless of whether or not that property was derived from the consumers by the imposition of excessive rates or otherwise (Board of Pub. Utilities Comm. v. N. Y. Tel. Co., 271 U. S. 23), that the mere fact that an excessive amount may have been allowed to the company by way of income to cover expenditures is not decisive of the issue. We pause here, however, to advert to the fact that overhead is involved in both the historic cost and the reproduction value. It is clear, we think, that in considering the historic cost of the plant the company cannot include therein elements of value which have been apportioned to general expense and paid from the current revenues as an expense of operation. In building up the historic value of the plant it is obvious under the system of bookkeeping devised by the Commission and used by the company that it would be entirely [fol. 188] illogical to include in the historic cost those expenditures which had been deliberately allocated to the routine and general expenditures of the business. On the other hand, it is clear that in determining the reproduction cost, that is to say, the cost of reproducing a plant as useful and efficient as that of the company, the assumed overhead, due to general expenditures necessarily incident to such rebuilding should be apportioned upon a reasonable and scientific basis. It is upon the apportionment of these expenses that the experts disagree. It is estimated by the company's engineers that the overhead would add 24.27 per cent to the cost of reproduction. It is conceded by the Commission's engineers that the overhead percentage upon reproduction cost should be 22.32 per cent. The Commis-

sion fixed as the overhead in its finding of fair value 6.35 per cent, a difference between the Commission's finding and its engineers of 15.97 per cent, or $9,144,998, and a difference on the basis of the company's engineers, of $2,374,743 more. It is therefore claimed that the rate base should have added to it at least $9,144,998. If then we accept the reproduction cost as the fair value it would seem to follow inevitably that this additional overhead should be allowed as a part of the capital investment. The company correctly claims that in rate fixing the Supreme Court has indicated a decided preference for the reproduction cost as a determining factor in establishing value. If the Supreme Court had definitely held that the fair rate base could not be less than the reproduction cost, we would be constrained upon this issue of overhead alone to enjoin the rates fixed by the Commission (Georgia Ry. & Pr. Co. v. R. R. Commission, supra) but it has not done so. It has left the fixing of the fair value of the property to be determined by the courts in the light of constitutional principles thoroughly [fol. 189] established by it which require a consideration not only of the cost of reproduction, which must necessarily be somewhat theoretical as we shall presently illustrate, but also its historical cost. If either was decisive of the value it would be unnecessary to consider the other. If both are to be considered judgment must be exercised in determining the value. McCardle v. Indianapolis Water Co., 272 U. S. 400, 410.

Assuming for the moment, as the Commission decided, that the historic cost fixed by it correctly recognized all overhead elements of value which the company in its system of bookkeeping and accounting had apportioned to capital, should the company now be permitted to augment its capital because reproduction cost would reflect greater overhead? It is a fundamental principle of equitable jurisprudence that he who seeks equity must do equity. The company in the case at bar is seeking the aid of a court of equity to exact from the consumers a larger amount than has been accorded to them by the Commission. Should equity aid the company to again exact from the consumers income upon a sum which they have already paid to them, not as capital, but as income? We are not without authority upon this exact question. It has been held that this can-

not be done. (Natural Gas Co. v. Pub. Serv. Comm., 95 W. Va. 557, 121 S. E. 716.)

It should be observed in connection with the item of overhead that we are not dealing with a definite item of property such as a gas main, but with a system of bookkeeping and accounting as to which judgments may differ; whether an attorney's fee paid by the company in the conduct of its business should be charged to capital and the expenditure added to the rate base, or whether it should be treated as an incidental expenditure in the management and control [fol. 190] of its business, is obviously a matter of judgment upon which there can be no conclusive determination. It is in this situation that the Commission allows the company to make an apportionment of its expenditures from year to year between capital and operating expenses. We conclude, then, that the company cannot justly complain of an apportionment of its capital by the disallowance of its present claims of the overhead addition thereto, where the company has already been paid that overhead in conformity with its own claims that only 6.35 per cent of it represented capital expenditure. The point is so important that we quote from the decision of the Supreme Court of West Virginia upon that exact point as follows:

"We are of opinion that in any estimate of the present fair value of the company's property, based upon reproduction cost new, less depreciation, there may properly be included in such estimate a reasonable allowance for 'overhead charges,' if such charges have not already been paid as operating expenses, but the evidence as to the amount is too uncertain in this case for us to determine any particular sum. Upon further inquiry the Commission can ascertain such amount as may be warranted by the evidence, and that sum, when so found, may be given such weight, along with the other facts relevant to the inquiry, as the Commission may deem proper. But no allowance for overhead costs should be made where they have already been paid by the public as operating expenses. The utility should not be permitted to capitalize such overhead charges and require the public to keep on paying a return on expenses already repaid the utility. If, however, it should be found that actual expenditures have heretofore been made for overhead costs which have not been charged to and paid as operating expense, allowance should be made therefor."

Natural Gas Co. v. Pub. Serv. Comm., 95 W. Va. 557, 121 S. E. 716, 722.

See also Des Moines Gas Co. v. Des Moines, 238 U. S. 153, 165.

In this connection, however, it should be noted that the situation here is differentiated from that presented in the Board of Public Utility Comm. v. N. Y. Telephone Co., 271 [fol. 191] U. S. 23, the case much relied upon by the company in its contention that it is entitled to income upon the capital investment represented by overhead improperly charged to current expense. The Supreme Court in that case was dealing with a situation where the regulating board had expressly found that the returns allowed by it upon the fair value of the property were at least $1,300,000 less than the amount to which the company was entitled as a fair rate of return upon its property. The Board in its findings made it clear that the only justification for the rate fixed by it was its contention that the company had accumulated an excessive depreciation reserve amounting to $16,902,530. The Board, therefore, allowed a depreciation annuity of only $683,430, although it found that a proper annual allowance for depreciation and amortization would be $3,314,716. The difference between these two amounts was to be made up on the books of the company by appropriation from the previously received depreciation account. The Supreme Court held that although the amount received by the company for previous years for depreciation might be excessive, the money nevertheless belonged to the company and could not be appropriated to reduce an appropriate and necessary annuity for depreciation as this would be in effect a confiscation of the property already owned by the company. In this connection, for the purpose of greater clarity, we quote from the decision of the Supreme Court (p. 31) as follows:

"The just compensation safeguarded to the utility by the Fourteenth Amendment is a reasonable return on the value of the property used at the time that it is being used for the public service. And rates not sufficient to yield that return are confiscatory. Willcox v. Cons. Gas Co., 212 U. S. 19, 41; Bluefield Co. v. Pub. Serv. Comm., 262 U. S. 679, 692. Constitutional protection against confiscation does not depend on the source of the money used to pur-

chase the property. It is enough that it is used to render [fol. 192] the service. San Joaquin Co. v. Stanislaus Co., 233 U. S. 454, 459; Gas Light Co. v. Cedar Rapids, 144 Ia. 426, 434, affirmed, 223 U. S. 655; Cons. Gas Co. v. N. Y., 157 Fed. 849, 858, affirmed 212 U. S. 19; Ames v. Un. Pac. Ry. Co., 64 Fed. 165, 176. The customers are entitled to demand service and the company must comply. The company is entitled to just compensation and, to have the service, the customers must pay for it. The relation between the company and its customers is not that of partners, agent and principal, or trustee and beneficiary. Cf. Fall River Gas Works v. G. & E. Lt. Com'rs, 214 Mass. 529, 538. The revenue paid by the customers for service belongs to the company. The amount, if any, remaining after paying taxes and operating expenses, including the expense of depreciation, is the company's compensation for the use of its property. If there is no return, or if the amount is less than a reasonable return, the company must bear the loss. Past losses cannot be used to enhance the value of the property or to support a claim that rates for the future are confiscatory. Galveston Elec. Co. v. Galveston, 258 U. S. 388; Georgia Ry. v. R. R. Comm., 262 U. S. 625, 632. And the law does not require the company to give up for the benefit of future subscribers any part of its accumulations from past operations. Profits of the past cannot be used to sustain confiscatory rates for the future. Newton v. Cons. Gas Co., 258 U. S. 165, 175; Galveston Elec. Co. v. Galveston, supra, 396; Monroe Gaslight & Fuel Co. v. Michigan Pub. Ut. Comm., 292 Fed. 139, 147; City of Minneapolis v. Rand, 285 Fed. 818, 823; Ga. Ry. & Pr. Co. v. R. R. Comm., 278 Fed. 242, 247, affirmed 262 U. S. 625; Chicago Rys. Co. v. Ill. Commerce Comm., 277 Fed. 970, 980; Garden City v. Telephone Co., 236 Fed. 693, 696.

"Customers pay for service, not for the property used to render it. Their payments are not contributions to depreciation or other operating expenses, or to capital of the company. By paying bills for service they do not acquire any interest, legal or equitable, in the property used for their convenience or in the funds of the company. Property paid for out of moneys received for service belongs to the company, just as does that purchased out of proceeds of its bonds and stock. It is conceded that the exchange rates complained of are not sufficient to yield a just return

after paying taxes and operating expenses, including a proper allowance for current depreciation. The property or money of the company represented by the credit balance in the reserve for depreciation cannot be used to make up the deficiency."

The difference between the situation presented to the Supreme Court in that case and the situation in the case at bar, arises from the matter of judgment involved in determining to what extent overhead is a capital expenditure. Let us for the purpose of illustration, reverse the situation [fol. 193] and assume that the company instead of charging only a part of the overhead to capital and the balance to operating expenses, had charged the full amount of 24.27 per cent to capital. At the end of ten years let us assume that the regulating body concluded that only 6.35 per cent should have been charged to capital and correspondingly reduced the capital of the company. It could claim as the company now does that the apportionment previously made was not scientifically correct. It could claim also that although a change in the system of bookkeeping to conform to the new ruling would result in a loss to the Company during the previous ten years during which the Company had been apparently augmenting its capital at the expense of its income, the loss was nevertheless a past loss which the Company was not entitled to have returned in future revenues. The claim of the Commission in the hypothetical case would have behind it exactly the same logic which the Company is advancing in support of its present position except that in one case the Commission is contending that the Company is not entitled to recoup its losses, and in the other the Company is claiming that the public is not entitled to recoup its losses, that is, the loss it suffered by excessive payment of expense. We have little doubt that in the assumed case the court would hold that the Commission could not shift its ground with reference to the overhead at the expense of the public utility, and we see no greater reason why the utility should be permitted to shift its ground at the expense of the public. In either case it is clear that the historic overhead cost is a fairer basis for fixing the overhead involved in the value of the property than the reproduction overhead cost, scientifically apportioned. We conclude that in choosing between the cost of

reproduction overhead and the historic cost overhead the [fol. 194] Commission was justified by the action of the Company with reference to overhead in accepting the Company's own historic contention with reference to overhead, that is, in acting upon its admission with reference thereto fixing it at 6.35 per cent and in rejecting the overhead which reasonably would be included at a higher percentage (22.32 to 24.27 per cent) of the reproduction cost. To restate the proposition, we conclude that on the question of overhead the Commission was justified in accepting the historic cost of overhead rather than the reproduction cost of overhead, that is, that in the fixing of the value of the plaintiff's property the amount of indirect overhead to be applied to the valuation of the physical properties is 6.35 per cent.

Going Concern Value

It is thoroughly established that the Company is entitled to have considered as part of the fair value of its property an intangible which is classed as "going concern value", that is to say, it is something in addition to the bare bones of the plant which would result from the physical reconstruction thereof. If we assume that the plant is constructed under a contract calling merely for the reproduction of its physical properties and the turning over of those properties complete but not yet operating, some larger amount than the contract price of reconstruction must be allowed in determining the value of the plant after it has become a going concern in successful operation. Primarily going concern value is included in the reproduction cost as an essential element of the reproduction of the property. The Supreme Court of the United States in McCardle v. [fol. 195] Indianapolis Water Co., 272 U. S. 400, held that an estimate of 9½ per cent for going concern value to be added to reproduction cost, was amply sustained by the evidence, and that the reported cases indicate that ten per cent of the physical elements of value would be a reasonable allowance for the intangible elements involved in going concern value.

The Railroad Commission expressly refused to make any specific allowance for going concern value. This is directly in the teeth of the decisions of the Supreme Court of the

United States (McCardle v. Indianapolis Wtr. Co., 272 U. S. 400, supra). At p. 414 it is said:

"The decisions of this court declare: 'That there is an element of value in an assembled and established plant, doing business and earning money, over one not thus advanced, is self evident. This element of value is a property right, and should be considered in determining the value of the property, upon which the owner has a right to make a fair return when the same is privately owned although dedicated to public use.' Des Moines Gas Co. v. Des Moines, 238 U. S. 153, 165; Denver v. Denver Union Water Co., 246 U. S. 178, 191, 192. And see National Waterworks Co. v. Kansas City, 62 Fed. 853, 865; Omaha v. Omaha Wtr. Co., 218 U. S. 180, 202, 203, and cases cited."

It did, however, contend that all the elements making up going concern value had been paid for out of the current expenses of the company, notably the cost of attaching business and had thus been allowed. It is relatively easy to estimate a going concern value to be added to the bare bones of the plant in fixing reproduction cost, but comparatively difficult to determine what amount should be added to the historic cost, or to the fair value of a plant long established, where, as here, the cost of attaching business and putting life into the enterprise has already been allowed as items of capital, investment or current expense, under much the same conditions as in the cost of overhead expenditures. The Supreme Court in Des Moines Gas Co. [fol. 196] v. Des Moines, 238 U. S. 153, 165, deals with that problem. We quote therefrom as follows:

"That there is an element of value in an assembled and established plant, doing business and earning money, over one not thus advanced, is self-evident. This element of value is a property right, and should be considered in determining the value of the property, upon which the owner has a right to make a fair return when the same is privately owned although dedicated to public use. Each case must be controlled by its own circumstances, and the actual question here is: In view of the facts found, and the method of valuation used by him, did the Master sufficiently include this element in determining the value of the property of this Company for rate-making purposes?

"Included in going value as usually reckoned is the investment necessary to organizing and establishing the business which is not embraced in the value of its actual physical property. In this case, what may be called the inception cost of the enterprise entering into the establishing of a going concern had long since been incurred. The present company and its predecessors had long carried on business in the city of Des Moines, under other ordinances, and at higher rates than the ordinance in question established. For aught that appears in this record, these expenses may have been already compensated in rates charged and collected under former ordinances. As we have said, every presumption is in favor of the legitimate exercise of the rate making power, and it is not to be presumed, without proof, that a company is under the necessity of making up losses and expenditures incidental to the experimental stage of its business.

"These items of expense in development are often called overhead charges, for which, as we have already seen, the master allowed fifteen per cent upon the base value (exclusive of real estate), or $296,254, in addition to his allowance of $6,923 for organization expenses. * * *

"When, as here, a long established and successful plant of this character is valued for rate-making purposes, and the value of the property fixed as the master certifies upon the basis of a plant in successful operation, and overhead charges have been allowed for the items and in the sums already stated, it cannot be said, in view of the facts in this case, that the element of going value has not been given the consideration it deserves and the appellant's contention in this behalf is not sustained."

[fol. 197] Regardless of how the Company acquired the going concern value, it is entitled to have that value considered as a part of its investment. While somewhat the same principle is involved as in the case of the indirect overhead, the situation is not identical. Going concern value is something like the unearned increment of real estate. It is partly the result of the expenditures of the Company, partly the result of the growth of the city, partly the result of the efficiency of management, partly the result of reputation of the Company in its financial affairs, and

the skill of its employees in so utilizing the property as to produce a reasonable revenue therefrom. We conclude that there are some elements of going concern value not included in the valuation of the Company's property. Insofar as the cost of reproduction new or the historic cost fixed by the Commission includes the cost of attaching business, the cost of financing and promoting, the going concern value has in part been taken care of by the allowance of these items as costs, but if these elements are omitted, and it would seem to be the better practice to omit them in the estimate of the cost of reproduction, then the going concern value should be added to such cost to take care of such items of expenditure, not in exact amount of the expenditure which may or may not be reasonable or necessary, but by a general appraisal of going concern value to be fixed in the light of the necessary expenditures required to produce the going concern. Here again it should be noted that expenditures usually allowed as costs of conducting business in the accounts of a public utility shoud not be again charged to the pubic as capital expenditures. A new Company in establishing its business would recognize that such expenditures were allowable as a legitimate expenditure of doing business, and a Company long established has [fol. 198] already had that advantage. Such an allowance for current expenditures is a reasonable expectation whether the Company is a going concern or not. The Commission expressly declines to appraise going concern value in estimating either the historic cost or the reproduction cost upon the ground that the current expenditures had taken care of the cost of acquiring the going concern value, and therefore, that it would be inequitable to allow the Company a going concern value in addition to the amounts already received from its revenue for current expenditures. While there is merit in the position, it cannot be maintained as to those intangibles not resulting from these expenditures, such as the growth of the city and the successful financial record of the Company—that is, its credit. While good will and going concern value are not the same, neither can be measured by the exact standard of cost of doing business, however, in considering going concern value it should be observed that although the approved practice is to evaluate this item as an element in the fair value of the property, and then to determine a rate of income which

would be fair, the real question in cases involving confiscation by rates that are too low is one of adequate return. It is therefore immaterial whether the rate is lowered by a too low appraisal of the Company's property, or by the fixing of the percentage of return too low on a higher valuation. Conversely, it matters not if the valuation is too low if the rate of return is correspondingly increased. The subdivision of the just compensation into elements of property on the one hand and a return percentage thereof on the other, is a mere convenience for determining the question of confiscation. It is the actual result that is to be considered in determining whether or not the federal constitutional provision against appropriating property without [fol. 199] just compensation has been violated. In this case the just compensation must be found in the rates fixed by the state. The net income measures the return of the compensation to the owners of the property. We think that the Commission has recognized an element of going concern value in its method of rate making by consistently allowing a net rate of return in excess of the cost of bond and preferred stock money. The cost of bond and preferred stock money is 6.17 per cent, the rate of return allowed is 7.7 per cent, or 7 per cent, according to the undepreciated base selected. This policy on the part of the Commission results in a profit to the common stockholders upon the bond and preferred stock investment. This profit results in part from the financial history of the Company, from its standing in the community, from its credit, from the growth of the city, all elements of going concern value (McCardle v. Indianapolis Water Co., supra), which is thus definitely reflected in the relatively low cost of financing the project. The allowance of a profit on the bond and stock money necessarily results in a return on the going concern value. A profit of one per cent on the bond and preferred stock money represents a return of seven per cent upon a capital investment of $5,286,154 (1/7 of $37,003,078 = $5,286,154). The profit goes to the common stockholders to increase the returns on their investment beyond the 7 per cent return on the value of the physical property ascribed to the investment of the common stock money. If we assume that 6.17 per cent is a fair return upon the bond money, it also would be equally fair upon the common stockholders' money, if all hazard in the investment were eliminated, but the hazard to the com-

mon stockholders is reduced in part by the ability to readily finance or refinance the business at a relatively low rate of return.

In short, we think that the allowance of a reasonable [fol. 200] profit to the common stockholders upon the cost of its bond and preferred stock money is as definite a recognition of some of the elements of going concern value as if in its estimate the Commission had added a large sum to the fair value for going concern value. Thus, if we assume 7.7 per cent used by the Commission as the rate of return on the historic cost base as a fair return upon the fair value of the Company's property, it would give the common stockholders a profit of 1.53 per cent on every dollar invested by the bond and preferred stockholders, which would be equivalent to an addition to the fair value of the property of $7,352,559.61 at 7.7 per cent. While we do not say that this amounts to an addition of $7,352,559.61 to capital as going concern value, for the reason that stockholders by reason of increased hazard are obviously entitled to a greater return on their investment than the holders of bonds, and are thus entitled to make a profit on the bond and preferred stock money, nevertheless, it is obvious that the amount of such profit depends upon the credit of the Company which forms a part of its going concern value. Having thus concluded that going concern value has been partially allowed in the historic overhead, in the historic current expenditures to the end of creating going concern value, and in the allowance of a profit on the bond and preferred stock money due to its credit, we pass the further consideration of that subject until our summation.

Historic Cost

The parties are not in serious disagreement as to the historic cost of the plant. This is partly because of the fact that the financing and accounting systems of the corporation have been so long under the control of the Commission.

[fol. 201] The Commission found the historic cost of the Company's property to be $60,704,000. This estimate is based upon an appraisal of the Company's property made in 1915 and adopted by the Commission in 1917 as the fair value, plus the net cost of additions and betterments to the

property from 1915 to 1929, inclusive, as recorded on the books of the company during those years, plus an appraisal of the value of lands made by the Commission's engineers as of December 31, 1929, plus working capital, etc. We append in the margin a "break down" of this total as shown in the Commission's decision for further explanation of the totals considered in the historical cost plus the appreciation of real estate values, etc.

The break-down of the rate-base figure used for 1930 is as follows:

Intangible capital as of December 31, 1929:		
Organization	$415,735	
Franchises	13,391	
Total intangible capital		$429,126
Tangible capital as of December 31, 1929:		
Land	$3,500,888	
Production capital	19,215,650	
Distribution capital	32,205,912	
General capital	3,335,611	
Total tangible capital		58,258,061
[fol. 202] Additional Allowance for Interest during Construction		$155,000
Grand Total Fixed Capital as of December 31, 1929		58,842,187
One half (Company's Estimate) Net Additions and Betterments for 1930		767,103
Average Fixed Capital, 1930		59,609,290
Materials and Supplies		450,000
Working Cash Capital		645,000
Rate Base		60,704,290
Rate Base Used		60,704,000

Estimates of the historical cost of the structural property were made in this proceeding, both by the Company and by the Commission's Valuation Department. Excluding overheads, the Company reached a figure approximately $300,000 higher than the one obtained by taking the

1917 rate base as fixed by the Commission in its first decision and building up on that, while the Valuation Department of the Commission reached a figure approximately $300,000 lower than the one thus obtained. The fact that each of these estimates, independently reached by employing somewhat different methods and procedure, corresponded so closely to the historical cost figure as used and accepted by the Commission and by the Company as correct in the series of rate determinations running from 1917 to 1928, confirms its substantial accuracy. The figure used conforms to the accounting practice of the Company as to the bulk of its investment, which has increased from approximately $13,000,000 in 1917 to over $58,000,000 in 1929, the difference representing net additions and betterments during this period as inscribed in the Company's books and records. Mr. McAuliffe and the Company's land appraiser were surprisingly close in their results. In the few points of difference Mr. McAuliffe's testimony was the more convincing.

This, of course, is the historic cost unless the appraisal made in 1915 and acted upon ever since by the Commission and by the Company is erroneous. No serious fault is found with the appraisal of 1915. The Company tabulates the "historic reproduction cost appraisals" in its brief, as follows:

[fol. 203] Historical Reproduction Cost Appraisals

	Appraisal of company engineers	Appraisal of Commission engineers	As fixed by Comm. in decision
Intangible Capital as of January 1, 1930:			
Organization	$365,529	$365,529	$415,735
Franchises	12,406	12,406	13,391
Total Intangible Capital	377,935	377,935	429,126
Tangible Capital as of January 1, 1930:			
Land	3,893,370	3,693,191	3,500,888
Production Capital	14,304,373	14,304,373	19,215,650*
Distribution Capital	34,596,784	34,126,513	32,205,912*
General Capital	2,760,217	2,758,809	3,335,61,*
Subtotal	55,554,744	54,882,886	58,258,061
Overheads	7,480,567	5,758,841	.....
Additional Allowance for Interest During Construction	.....	.....	155,000
Total Tangible Capital	63,035,311	60,641,727	58,413,061

	Appraisal of company engineers	Appraisal of Commission engineers	As fixed by Comm. in decision
Total Tangible and Intangible Capital, as of January 1, 1930	63,413,246	61,019,662	58,842,187
Materials and Supplies	612,735 2,333,850	810,000	450,000 645,000
Working Cash Capital	.....	.....	.....
Cost of Brokerage and Issuance Expense on Bonds Outstanding Against the Gas Department, as of January 1, 1930	1,147,802	.....	.....
One-half Estimated Additions and Betterments for the year 1930	1,054,255	.....	767,103
Total, Exclusive of Going Concern Value	$68,561,888	$61,829,662	$60,704,290*

* Including Overheads.

This table fairly indicates the points of difference in the appraisals of historic cost and the historic cost rate base as fixed by the Commission to be in items of overhead, materials and supplies, brokerage fees and one-half of additions and betterments for 1930. The item of overhead [fol. 204] has been hereinbefore dealt with and the conclusion arrived at is that historic overhead of 6.35 per cent is the proper allowance for this item. The other items going to make up the difference will be considered in the summary.

Reproduction Cost

With reference to reproduction cost the position of the Commission is stated in its brief as follows:

"Effect of Price Changes

"The wide variation between estimates of reproduction cost and actual cost of this property as of December 31, 1929, is not attributable to changes in price level. It is very largely due to the assumption of engineers that many costs will be incurred which were never actually incurred nor actually treated as capital charges. This may be plainly illustrated by an examination of the various estimates of cost to produce new the existing physical properties alone before the addition of land, overheads, and intangibles, and comparing them with the historical cost estimates on the same basis:

	Company estimate	Commission estimate
Cost to reproduce using one day unit prices of Dec. 31, 1929, excluding overheads, land and intangibles	$57,871,271	$56,681,075
Historical cost, excluding overheads, land and intangibles	51,661,374	51,189,795
Difference between cost to reproduce and historical cost	$6,209,897	$5,491,280

"Of these differences, it is admitted by plaintiff that $580,195 represents costs due solely to existing difficulties of construction in the streets not present when construction was actually done. Deducting such difficulty factor, the remainder represents true price changes between the various actual construction dates and December 31, 1929. Giving effect to a further reduction in prices between December 31, 1929, and June 15, 1930, as testified by the Commission's engineer, there would be a further deduction of $354,065. Comparing the reproduction estimates as shown in Commission's Engineer's Exhibit No. 52 using average prices of the four years preceding the date of valuation, there is shown, therefore, that the result obtained by using [fol. 205] one day unit prices of December 31, 1929, was $307,152 below the four-year average, and by using one day unit prices of June 15, 1930, the reduction is $661,217 below the four-year average.

"Further illustration of the manner in which the Company sought to build up its reproduction cost new value, and the comparison of these values with its historical cost estimate, is shown by the following table:

	Historical cost estimate of company	Reproduction estimate of company	Difference
Physical properties (base above)	$51,661,374	$57,871,271	$6,209,897
Organization and franchises	377,935	831,781	453,746
Lands (without overheads)	3,893,370	3,893,370	.....
Overheads	7,480,567	14,990,278	7,509,711
Cost of financing	.....	5,921,470	5,921,470
Promoter's remuneration	.....	2,500,000	2,500,000
Cost of attaching business (Going Concern)	.....	9,228,667	9,228,667
	$63,413,246	$95,236,837	$31,823,591

"It appears, therefore, that the Company's estimate to reproduce new is approximately fifty per cent above its estimate of actual cost, and, of the assumed increased costs, not more than one-fifth is represented by increased cost of the physical properties alone before the inclusion of in-

direct charges under the heading of overheads, organization, promotion, etc."

In view of the importance of the decision of the Supreme Court in McCardle v. Indianapolis Water Co., supra, with relation to the weight to be given to reproduction cost as against historic cost in determining the rate base, we proceed to a further consideration of that decision. An examination of the record in that case shows that the cost of reproduction of the physical property only, less depreciation, as estimated by the various engineers upon the different bases varies from $13,979,774, estimated by the Board's engineer for reproduction at average prices for ten years ending in 1920, to $17,328,249, by the same engineer spot prices on October 1, 1922. The engineers for the company gave estimates from $16,020,456 on average prices for ten years ending 1920 to $20,535,543 on average prices for five years ending 1921, and for spot prices October 1, [fol. 206] 1922, $19,447,193. The Board's engineer gave the estimate of $17,000,000 for the reproduction cost as of January 1, 1924, based upon average prices in the ten years ending with 1923. Apparently the Supreme Court accepted this estimate of the Board's engineer for reproduction cost ($17,000,000) as "substantially less than the amount fairly attributable to the physical elements of the property," and added thereto slightly more than ten per cent ($1,865,000) "to cover water rights and going value and to this total $135,000 for cash working capital", giving a rate base of $19,000,000 as a minimum.

It will be observed that the Supreme Court was there dealing with reproduction cost at a time when the cost of labor and material had been greatly advanced over the historic cost. The court stated that:

"The high level of prices and wages prevailing in 1922 and 1923 should be taken into account in finding value as of January 1, 1924, and in the years immediately following. Moreover, there is nothing in the record to indicate that the prices prevailing at the effective date of the rate order were likely to decline within a reasonable time—one, two or three years—to the level of the average in the ten years ending with 1923. And we may take judicial notice of the

fact that there has been no substantial general decline in the prices of labor and materials since that time. The trend has been upward rather than downward. The price level adopted by the commission—the average for ten years ending with 1921—was too low. And it is clear that a level of prices higher than the average prevailing in the ten years ending with 1923 should be taken as the measure of value of the structural elements on and following the effective date of the rate order complained of."

The Supreme Court in this case very clearly indicated that where there had been so marked an increase in value over so long a period of time, and likely to continue so long after the time when the rates were fixed, it was necessary [fol. 207] to recognize this higher cost in fixing the rate base, and that the historical cost should not be accepted where it was based upon a long period of relatively low cost of labor and material.

In the case at bar we have the situation exactly reversed. The current rates for labor and material have gradually decreased owing to the depression.

Prices have depreciated so that at the time of the hearing an affidavit was filed on behalf of the Commission by Mr. Dufour, one of the engineers of the Commission, estimating that the reproduction cost of the Company's property at prices prevailing December 15, 1930, including land at market value as of December 31, 1929, and excluding difficulty factor is $60,009,099 undepreciated. We quote as follows from the affidavit:

"That said figure would represent the cost of the properties as they existed December 31, 1929, if the unit costs and prices prevailing on December 15, 1930, were used, applying overhead charges of six per cent, the average amount actually charged by the Company on its books from 1913 to 1929, inclusive, and including land at market value as of December 31, 1929; that the current price level costs of $60,009,099 as of December 15, 1930, is only $1,321,912 or 2.25 per cent higher than the actual historical cost."

This amount, it will be observed, is over $5,000,000 less than the fair value of the property as fixed by the Commission. It does not include going concern value. On the other hand, it is undepreciated. If we add approximately

ten per cent to this for going concern value we have an undepreciated base of $66,010,008.90. If we deduct therefrom the depreciation contended for by the company, $3,470,326, we have a depreciated base estimated on cost of reproduction on December 15, 1930, plus going concern value less depreciation of $62,539,682.90, whereas, if we accept the depreciation fixed by the Commission, $7,650,000, [fol. 208] we would have a depreciated rate base of $58,360,008.90 after allowing ten per cent for going concern value. Accepting the Company's figures for depreciation the rate base is approximatley $3,000,000 less than that taken by the Commission, and if we accept the Commission's estimate of depreciation we have a rate base over $7,000,000 less than that fixed by the Commission as the fair value of the property. In other words, upon the price levels of December 15, 1930 we would have ample allowance for going concern value in the $65,500,000 undepreciated rate base fixed by the Commission. Lest we be misunderstood we hasten to say that we are using the figures of Mr. Dufour's affidavit for purpose of illustration rather than as binding conclusions to be adopted by this court, because they are at "spot prices" of December 15, 1930. They illustrate the effect of the falling prices and this court will take judicial notice that the costs of reproduction were lessened during the year in which the old rates have been collected by reason of the temporary injunction herein (January 1, 1931 to January 1, 1932). (As to judicial notice see A. T. & S. F. v. Interstate Commerce Commission, case No. 287, decided Jan. 4, 1932, 284 U. S. 248. However, it has been definitely decided by the Supreme Court that spot prices, that is, prices on a particular day, assumed as a basis for capitalization, is not the proper method of determining reproduction costs (McCardle v. Indianapolis Wtr. Co., 272 U. S. 400 supra). This, of course, is not only settled by authority, but also is clearly reasonable, for the value of the plant taking years to construct and involving large outlays during a period of fluctuating prices should not be judged by the arbitrary selection of a date as controlling price levels during the entire period. The method sanctioned by the Supreme Court in McCardle v. Indianapolis Water Co., 272 U. S. [fol. 209] 400, supra, was a determination of reproduction cost upon a ten-year average. The engineers in the case

at bar, as will be presently indicated, in determining the reproduction cost selected a four-year period of reconstruction and adopted an average price during that period. So far as the question of overhead is concerned in fixing the fair value of the plaintiff's property, we have already expressed the opinion that the position of the company, while theoretically correct, that is, while a proper reproduction cost would include the overhead properly applicable thereto, testified to be from 24.27 per cent to 22.32 per cent, nevertheless in determining the fair value of the Company's property, in view of the historic method of subdivision of its overhead expenditures between current expense and capital, the fair valuation of the property should be based upon the method of distribution of overhead adopted and maintained by the Company for many years, and this may appropriately be done by giving priority to historic value on overhead rather than estimated cost in reproduction value, in determining the amount of overhead applicable to the fair value of the property. We will revert to a more detailed consideration of these exact estimates by the engineers in our summary; but before doing so will take up the subject of

Depreciation and Obsolescence

The subject is one of great difficulty which has received a great deal of attention by rate-making bodies and by the courts because it is reflected in the rates fixed for public utilities in two ways. First, it affects the value of the property, and second, it affects the annual allowance called the "depreciation annuity" to be deducted from the gross [fol. 210] revenue to offset the current depreciation. It is to the interests of the public utility to minimize as much as possible accrued depreciation because it is deducted from the rate base, and to increase as much as possible the annual allowance for depreciation which is deducted from its gross receipts as an expenditure. This situation is emphasized by the contentions made by the Company in the case at bar. It has accumulated a depreciation reserve of $9,350,689 in its gas department. It is claimed by the Company that the Commission deducted for depreciation $7,650,000, whereas the Company contends that the amount which should have been deducted from the value of its property new for accrued depreciation during the entire history of

the Company is a total of only $3,470,326. Thus, the amount claimed as accrued depreciation by the Company is $5,880,363 less than the amount they have set aside as a reserve to take care of that depreciation. The Company also claims, however, that it should have been allowed as a depreciation annuity for current depreciation $1,300,000. In short, the Company claims an annuity for depreciation which would in three years equal the total depreciation which it contends has accumulated during its entire history. These observations of the incongruity of the Company's claims are made at the outset of the discussion of depreciation to indicate the inherent difficulties in the situation. It has been established that the amount accumulated for depreciation reserve cannot be utilized as a basis for diminishing the annual allowance for depreciation below a reasonable sum fixed therefor. (Board of Pub. Utilities v. N. Y. Tel. Co., 271 U. S. 23.) It is recognized by the Commission in its decision, by the experts in their testimony, and by the attorneys in their briefs, that the "sinking fund method" of estimating depreciation is not [fol. 211] the correct basis, but that the question of actual depreciation is the test. The fundamental difference in the rule is well illustrated by the contention of the City of Los Angeles, intervener herein, with relation to the obsolescence of the manufacturing plant of the Company. It is claimed by the city that although the Commission included about $10,917,727 as the valuation of the gas manufacturing plant, the necessity for the plant is completely obviated by the use of natural gas. It is therefore claimed that the rate base fixed by the Commission is $10,917,727 too great for that reason. While it is conceded, as stated, that actual depreciation should be ascertained, that test is not easy to apply, particularly in the case of partial or complete obsolescence.

The Commission's engineer, Wehe, in the case at bar, fixed the actual accrued depreciation estimated on the straight line basis at $15,345,154. He also estimated the accrued depreciation by the sinking fund method to be $7,774,867. Neither method treated the manufacturing plant as obsolete. The accumulated depreciation reserved for the gas department is $9,350,689. The Company's estimate for accrued depreciation was that by engineer Luick. It is claimed by the Company that the testimony of engi-

neer Wehe is based upon a mere theory rather than actual observation, and that the Company's engineer, Luick, after a detailed physical examination of the property appraised the accrued and realized depreciation, including functional deterioration, at $3,470,326. The position of the Commission with reference to the testimony of Mr. Luick can best be stated in the terms of its brief:

[fol. 212] "Mr. Luick testified that the total accrued depreciation on all gas property was only $3,470,326. This he attempted to support by the claim that by the expenditure of such sum the property could be restored to a condition as good as new. On meters and regulators, for example, which represent about $6,000,000 in capital, and in place for many years, he gives an accrued depreciation of only $155,000, and testified that with such repairs they would be made just as good as new. Yet it was his judgment that there should be set aside annually to a depreciation reserve the sum of $109,000 for these same units of property. His estimate of $1,300,000 for total depreciation expense has no relation to his actual accrued depreciation, nor was it based upon any study of the Company's actual needs. As he testified, it was his theory that the depreciation reserve, to which an annual allowance of $1,300,000 should be made, was merely a contingency fund to safeguard the Company against possibilities that cannot be foreseen. His treatment of the capital deduction because of depreciation already accrued and of the annual expense allowance therefor was obviously inconsistent."

The Commission allowed $7,550,000, based upon the testimony of Commission's engineer Wehe, but did not deduct the depreciation from the rate base. The City of Los Angeles, intervener, in dealing with the question of depreciation, called attention to the fact that the total value of $10,917,727 for manufacturing plant and equipment is not used or useful in the manufacture of gas by reason of the use of natural gas. It is stated:

"The record shows that the manufacturing plants have not been used subsequent to 1927, save and except in the year 1928 at the time of the St. Francis Dam disaster when the plants were warmed up so that they could be put into operation in the event it became necessary.

"Manufactured gas could not be used in the City of Los Angeles with any degree of success or satisfaction without a change in all of the gas-burning appliances in the city for the reason that the appliances are now adjusted for natural gas. Before manufactured gas could be used it would be necessary to make a change. This change would require a long period of time, and by the time the change was made in the gas-burning appliances, any break which might occur to the many transmission lines which convey natural gas to the City of Los Angeles, or other interruption to service, could be remedied before the change of gas appliances could be effected.

[fol. 213] "The Company contends that the gas manufacturing plants are necessary as a standby plant. We contend that the plants are not now being used and have not been used for several years as such, which shows that they are no longer used or useful in the public service, and therefore their value should have been excluded from the rate base."

On this subject of obsolescence the findings of the Commission are as follows:

"Generating Plants

"No deduction is made on account of the Company's artificial generating plants and equipment being rendered unnecessary by the introduction of natural gas. There can be no question that money invested in these was invested prudently and in good faith. When made, at least, the investment was a proper and necessary one. The theory of the basis of testing rates here under consideration contemplates protection of investments thus made. Were the cost of these plants deducted from the *base it would be necessary to provide for its amortization.* The City's setup provides for their amortization over a longer period of time than their normal life expectancy upon which current depreciation expense is calculated. A shorter and more logical amortization period would substantially change the result. *While the evidence adduced by the city in respect to these plants presents a serious question as to whether all of the investment they represent should be continued in the rate base,* it is not established with sufficient definiteness that the elimination of the whole or a

part of the investment *would be fair to the* Company, or to the interest of the consumers. A somewhat different situation arises in connection with the Company's claims to the reproduction value of these plants. This is treated under Part III." (Italics ours.)

It will be noted that the Commission is of the opinion that a finding that the manufacturing plant was neither used nor useful and therefore that its value should be deducted from the rate base would necessitate the return of such lost value to the Company by rates which would require the consumers of gas to pay therefor, in installments over a period to be fixed by the Commission. A theory entirely untenable upon the basis of the decisions of the Supreme Court. The real question is whether its value can justly be included, in whole or in part, in the rate base, and [fol. 214] to that extent only can its value be considered. It is also found by the Commission that, "The evidence convincingly and satisfactorily establishes the existence of a natural gas supply adequate for years to come". It is obvious that the Commission, in continuing as a capital investment the manufacturing plant of the Company, did so on the untenable prudent investment theory. Neither the Company nor the Commission complained of this method of treatment of the obsolete manufacturing plant of the Company, and the City of Los Angeles only mildly complains thereof and suggests that the finding of the Commission, being an exercise of sound discretion, is binding. But we are not bound by the decision of the Commission. If we were this suit would be at an end. For instance, if it appears from the record that the Commission has included in its rate base $10,917,727 of worthless property upon which the Company is not entitled to income and has erroneously excluded a like amount upon which the Company is entitled to an income (such as going concern value, etc.), we could not hold that the rate was confiscatory because the rate base was too small. On the contrary, the rate base would be exactly correct. While rates fixed by rate-making bodies are attacked in the courts upon a claim of confiscation advanced by the public utility corporation, the rate fixed may be actually excessive instead of confiscatory. A fair minded Commission is apt to err in favor of the Company as in favor of the

consumer. It may be the duty of this court in determining the question of confiscation to determine the question as to whether or not the historic or reproduction cost of the gas manufacturing plant of the company, or any part thereof, is to be included in the rate base notwithstanding the fact that the Commission included it in its rate base. We are, however, only concerned with the question of con- [fol. 215] fiscation, and if we can say that the rate fixed is not unreasonable, having due consideration for the factors involved including the admitted partial, if not total, obsolescence of the manufacturing plant, it will be unnecessary to attempt the solution of the problem which has been considered doubtful by the Commission and been avoided by the parties other than the intervening cities of Los Angeles and Pasadena.

With these preliminary observations we turn to a further consideration of the evidence.

In the first place, it should be again noted in this connection that the Commission has been using the sinking fund theory as a basis of estimating depreciation, which is expressly repudiated by the Supreme Court in the case of Pacific Gas & Elec. Co. v. San Francisco, 265 U. S. 403. The company relies strongly upon this decision as determining that actual and observed physical deterioration is the proper basis for fixing the accrued depreciation. The Supreme Court in that case not only did not decide that actual depreciation is controlling, but decided exactly to the contrary, although it is true that the author of the opinion manifests a decided preference for the actual facts with reference to depreciation as distinguished from theoretical computations on age or use or a sinking fund allowance. This, we think, is obviously the correct basis for determining accrued depreciation in fixing the rate base where that base is the present value of the property. In other words, the two propositions are interdependent. If the rate base is the present value of the property, then obviously the actual deterioration is an amount which should be deducted from the value of the plant if it were new. This conclusion, [fol. 216] which is now well established, was once in grave doubt and was determined by a divided court (Pacific Gas. & Elec. Co. v. San Francisco, 265 U. S. 403, supra). As a corollary to that proposition it follows that accruing depreciation, or depreciation annuity, is to be estimated upon the

present value of the property as depreciated. This was also decided by a divided court in Board of Public Utilities v. N. Y. Tel., 271 U. S. 23, supra; U. S. v. West, 280 U. S. 23. We would not emphasize the fact that these points were decided by a divided court were it not for the fact that the Commission in this case and, it says, in all others, has been inclined to follow the minority rather than the majority holding of the Supreme Court. It has allowed the accumulation of a reserve to meet accrued depreciation upon the rejected sinking fund theory. It does not follow, however, that in determining its present conclusions fixing rates for the Company's property it has entirely ignored the decisions of the Supreme Court. On the contrary, it seeks to sustain the rates it has fixed by reference to the principles determined by the majority of the Supreme Court in its numerous decisions. In its brief the Commission states:

"What the defendant Commission may believe to be the proper basis for utility rate-making cannot in any respect be taken as evidence of what it actually did in this case. The Commission very clearly and properly was first concerned with a rate of return which would protect this utility in its actual investment and permit it to continue to grow and successfully function as it has in the past under a regulatory policy which it admits has made prudent investment the primary test of value. The Commission need offer no apology for the acceptance in the past, or its preference as a rule for the future, of a basis for utility rate-making, which has in its experience proved sound, and the acceptance of which as the law of the land has frequently been urged in dissenting opinions by Justices of the Supreme Court itself. See City of Houston v. Southwestern Bell Tel. Co. (1922) 259 U. S. 318; St. Louis and O'Fallon Ry. v. U. S. (1929), 279 U. S. 461; United Railways v. West (1930), 280 U. S. 234."

[fol. 217] The Commissioner's brief also calls attention to some of the incongruities arising from the situation which have developed in the practical operation of the company under the direction and control of the Commission. As illustrative of the situation we quote from the Commission's brief as follows:

"The Commission's engineer determined the accrued depreciation on both straight line and sinking fund bases. By

the first method, he found it to be $15,345,154 and by the second $7,774,867. If the computed figure of $2,344,744 used by plaintiff in its brief for depreciation annuity on a straight line basis be accepted as correct, then a depreciated rate base computed by the same method must be accepted, which would be approximately $50,000,000. But, as the Commission stated in its decision, the estimate of its engineer of $1,072,000 for the depreciation annuity was computed on a sinking fund basis and to go only with an undepreciated base. (It should be here noted that the record shows that $65,500,000 fixed by the Commission as the fair value is an undepreciated base.) Therefore, as stated in the opinion of the Interstate Commerce Commission above quoted (Depreciation Charges of Telephone and Steam Railroad Companies, 118 I. C. C. 295, 355) the Commission's treatment of accrued depreciation by leaving it in the rate base while computing the annuity on an appropriate sinking fund basis was entirely consistent. If a straight line annuity were used, the base must necessarily be reduced by the only straight line accrued depreciation estimate in the record, namely $15,345,154.

"One other factor should be noted having a direct bearing on the depreciation annuity. The Company's claim of accrued depreciation arrived at by the 'cost to restore' method was only $3,470,326. The accumulated depreciation reserve for the gas department on December 31, 1929, was $9,350,689. The Company's witness would, nevertheless, add to the reserve not less than $1,300,000 annually, although he admitted that, after deducting his estimate for accrued depreciation, the reserve would be held as a mere contingency fund to meet extraordinary emergencies, and the amount in the reserve would not necessarily have any relation to the accrued depreciation. Necessarily, we submit, the present reserve for depreciation, and the allowance to be made annually to augment the reserve, must have some relation to the accrued depreciation. As was said in the latest decision of the Supreme Court, Smith v. Illinois Bell Tel. Co., 282 U. S. 133, 158:

[fol. 218] "'While it has been held by this Court that property paid for out of moneys received for past services belongs to the Company, and that the property represented by the credit balance in the reserve for depreciation cannot be used to support the imposition of a confiscatory rate

(Public Utility Comrs. v. New York Teleph. Co., 271 U. S. 23, 70 L. ed. 808, 46 S. Ct. 363), it is evident that past experience is an indication of the company's requirements for the future. The recognition of the ownership of the property represented by the reserve does not make it necessary to allow similar accumulations to go on if experience shows that these are excessive.'

"Attention should be called to the growing ratio in recent years which the Company's depreciation reserve bears to its fixed capital. Mr. Wehe in his affidavit on file shows this relationship in respect to the four capital groups, Mains, Services, Meters, and Regulators, which plaintiff says constitute the major portion of its fixed capital. His table shows that the reserve is now over 18 per cent of the total of these capital units and that the ratio of the reserve to capital has shown a marked and continuous increase.

"Therefore, it was entirely immaterial that the Commission in this case and in others has preferred to use an undepreciated rate base. The annual depreciation expense was computed to go with an undepreciated base, and this was most liberally computed. If the Company now for the first time wishes to urge the acceptance of an annuity computed on a straight line basis, it must accept a rate base with full straight line accrued depreciation deducted. This, as we have shown, is not less than $15,345,154, the only straight line estimate made, and undisputed in the record.

"In the plaintiff's brief it states that the estimate of its engineer of only $3,470,326 for accrued depreciation was determined after a physical inventory and appraisal in accordance with accepted methods."

Notwithstanding the position of the Commission, it is definitely and authoritatively determined that the rate base must be determined by proper deduction for actual depreciation and the annual allowance for depreciation must reasonably reflect the actual depreciation reasonably to be expected annually during the existence of the current rate. In a gas rate case from California the Supreme Court in Pacific Gas & Elec. Co. v. San Francisco, 265 U. S. 403, supra, was not only called upon to consider an elaborate ex- [fol. 219] position by the Master of the various methods of estimating depreciation, but also to determine the question of the effect of obsolescence due to the adoption of new ma-

chinery. It was conceded in that case that the original gas manufacturing plant of the Company was absolutely worthless and had been replaced by a new manufacturing plant which could make gas so much more economically that gas could be furnished to the consumers at a reduced rate and at the same time make an adequate return upon the capital invested in both old and new manufacturing plants. In this situation the court called attention to the fact that it would be unjust to the Company to reduce its capital investment by the amount of the obsolete plant and only allow income upon the new plant where the effect of the new investment was in the interests of the consuming public from any possible point of view. The court there said (p. 414):

"Obviously, under the theory accepted below, appellant worsened its situation for rate-making purposes when it reduced the cost of manufacturing gas. Introduction of successful patented inventions enabled the public authorities to lower the rate base and gather all the benefits. The operating plant, made capable of producing gas at smaller cost, was declared less valuable than before. The result indicates error somewhere, either in theory or application of principle."

Now, it is obvious that upon the formula that the rate base is the present value of the plant new, less actual depreciation, the value of the old and useless manufacturing plant should have been deducted from the historic cost and in estimating the reproduction cost, the old plant being entirely useless, it would not be reproduced or included in the cost of such reproduction. In either event, in estimating the historic cost less depreciation and present reconstruction cost less depreciation, the value of the obsolete plant would be omitted. The court pronounced such result unfair [fol. 220] to the Gas Company and reversed a decision of the trial court based upon the Master's report in which this exact thing was done. The court indicated its opinion that in some way the Company should be compensated for the loss it suffered by scrapping an old plant and replacing it with a more modern and economical plant. It was suggested by the court that this might be done by a capitalization of the patent rights involved in the process which had been acquired by the Company at an amount vastly greater than

their cost. On this basis the Gas Company claimed about 100 times the cost. This of course was more or less of a make-shift because in estimating the reproduction cost the cost of the acquisition of the patent could be and was properly included. The case was sent back to the trial court for redetermination of the question of value and depreciation in the light of the suggestions and decisions of the Supreme Court. In other words, the Supreme Court treated the question of depreciation allowance as one of fact to be determined in each case in the light of the entire situation as disclosed by the evidence to the end that a just allowance should be made for depreciation. The rule is the same as that for the determination of value as stated by then Associate Justice Hughes in the Minnesota Rate Cases, 230 U. S. 352, 434:

"The ascertainment of that value (fair value) is not controlled by artificial rules. It is not a matter of formulas, but there must be a reasonable judgment, having its basis in a proper consideration of all relevant facts."

As we have construed the decision of the Supreme Court in the Pacific Gas & Elec. Co. v. San Francisco, supra, it decides that in any estimate of the depreciation or obsolescent factors involved in rate-making, weight should be given to the historic cost as well as to the reproduction cost. [fol. 221] In that particular case of course the device of stepping up the value of patent rights would accomplish the same purpose as the emphasis of historic cost as against reproduction cost. To elaborate further, suppose that the Company in the case at bar, instead of purchasing gas at the city limits from another corporation had expended money for the building of pipe line from the gas wells to the city and claimed the benefit of this capital expenditure in the valuation of its property, but was met by the contention that having incurred this expense and thus reduced the price of gas to the consumer, it had thereby rendered obsolete its manufacturing plant, we would have a situation almost exactly parallel to that involved in Pacific Gas & Elec. Co. v. San Francisco, supra, with the exception that no patent rights are involved, hence, the right of the Company to an income upon the capital newly invested in the pipe line and also upon the manufacturing plant rendered

obsolete by the introduction of natural gas, if at all, must be determined in some other way. If we understand the decision of the Supreme Court it would require a consideration of what was just and fair under all the circumstances to deduct for depreciation due to the loss of value in the manufacturing plant. The solution adopted by the Commission in the case at bar was to treat the manufacturing plant as a stand-by plant. It is the duty of the fact-finding body to take into consideration the historic cost as well as the reproduction cost in fixing value and we believe that in case of obsolescence due to the discovery of natural gas or new machinery for the making of gas, that the court in determining the rate base should lean toward the historic cost rather than toward the reproduction cost, that is, should give some value to the displaced machinery or plant [fol. 222] to the end that a going public utility may in the long run receive an adequate return upon its property.

In the light of this discussion the question is, What is reasonably to be done on the subject of depreciation in the case at bar? The Company has accumulated as a depreciation reserve $9,350,689 in its gas department. This reserve, it is true, has been accumulated upon a sinking fund basis. It belongs to the Company as much as any other property belongs to it. What could be more reasonable, however, in the case at bar, than to insist that the corporation apply its reserve for depletion to the actual physical depreciation of its plant, and also to the degree of obsolescence resulting from the discovery and use of natural gas. It would seem under all the circumstances of the case to be fair to the Company to require that the money which had been paid to it for depreciation be considered as such in light of the fact that the manufacturing plant has so largely outlived its usefulness. We recognize the fact that if the manufacturing plant is used and useful for the purpose of furnishing gas to its consumers, the fact that it is not frequently used is not decisive of the question of absolescence. The entire value of the manufacturing plant, if used and useful, depreciated by physical deterioration should be credited to the value of the plant. On the other hand, considered as a mere stand-by plant, it would be quite as reasonable to hold that the old plants of the Company for the manufacture of gas from coal which may still be in existence should be incorporated in the rate base because of the belief that the oil

resources of the country soon would be exhausted. No one, we think, would contend for the adoption of the theory of a stand-by plant with reference to the old plant for manufacturing gas from coal.

[fol. 223] If in determining going concern value it is proper to consider the historic cost thereof, that is to say, to consider the extent to which current expenditures charged to the public have entered into the sum total of going concern value, as held by the Supreme Court in Des Moines Gas Co. v. Des Moines, 238 U. S. 153, 165, supra, and if, as we hold, upon the authority of Natural Gas Co. v. Public Serv. Comm., 95 West Va. 557, supra, it is proper in determining the value of the property to consider the historical subdivision of overhead cost and to apportion to the value of the property only that portion of the historical overhead which has in fact been treated as capital, it would seem to follow that in determining the depreciation we may consider the depreciation reserve as representing the historic cost or value of depreciation. That it should at least be prima facie regarded as the actual accrued depreciation is manifest for the reason that it represents the claim of the utility corporation conceded by the rate regulating body to be the proper compensation to the utility for the depreciation of its property resulting from its use in the public service. The public having paid the accrued depreciation upon that claim authorized and fixed by the regulating body should not be required to again compensate for what was claimed to be annually accruing depreciation by shifting that depreciation forward to be again paid for, in the absence of clear proof, nor on the other hand, to pay an income upon the reserve for depreciation which has been paid upon a claim for compensation for actual depreciation unless by clear proof it is shown that the accumulated reserve is excessive. The New York gas case (Board of Pub. Ut. Comm. v. N. Y. Tel. Co., 271 U. S. 23, supra) at first blush seems to be in direct conflict with this proposition for it announces the principle that money [fol. 224] collected by the Company for accrued depreciation belongs to it regardless of the fact that it is paid by the public upon a claim that it was necessary to compensate for accrued depreciation, when in fact a portion of it was not. Upon closer consideration, however, it is clear that the decision does not go that far. In that case there is an ex-

press finding of the public utility regulating body that the actual depreciation was less than the amounts which had been accumulated on the books of the corporation to compensate therefor by several million dollars ($4,750,000) and it was upon this finding that the regulating body required that some of this reserve not having been needed to compensate for past depreciation should be applied to future depreciation annuity. As the Supreme Court held this was a direct requirement that the corporation pay its own income from its own money—an obvious absurdity. This case is far from holding that it is either unreasonable or unjust to deduct the fund accrued for depreciation from the value of the property new to determine its depreciated value. We think it is prima facie correct to deduct this reserve. It may be conceded that the evidence may demonstrate that the reserve accumulated for depreciation is too great, and where it is shown to be too great, the principle applied in the New York gas case and Pacific Gas & Elec. Co. v. San Francisco would require that only the actual depreciation should be deducted. The exact amount of the annuity based, as it must be, in part upon prophecy, is somewhat problematical, hence, it must be recognized that the annuity might be either too great or too small, but having been arrived at by the best scientific knowledge available from time to time and having been charged to the consumers and paid by them, its weight in determining accrued depreciation, ought not to be lightly disregarded. The de-[fol. 225] preciation reserve is $9,350,689; and we conclude that this is a reasonable allowance for accrued depreciation. This amount is greater than that fixed by the Commission ($7,650,000). It is less than the straight line depreciation fixed by the Commission engineers ($15,345,154). It is much more than the estimate of the Company's engineer ($3,470,326). Before passing this subject we will briefly consider these differences. If we add to the accrued depreciation allowance of the Commission the value of that portion of the gas manufacturing plant which the Commission considered of doubtful value we have $10,650,000 for accrued depreciation. The Company's engineer fixed the actual accrued depreciation, based on as exhaustive an examination and inspection as was possible in view of the

fact that the pipe lines were underground and therefore inaccessible, at $3,470,326. There is here a discrepancy of about $6,000,000 ($5,880,363) between the depreciation reserve which we have accepted as the reasonable amount of accrued depreciation and the estimate of the Company's engineer, but the practical result of our conclusion is about the same as that which would be reached by accepting the estimate of the Company's engineer for accrued depreciation and his corollary estimate for anticipated actual annual depreciation, instead of the amount allowed by the Commission ($1,072,000) therefor. The former affects the principal, or rate base, the latter affects the net income to the Company. For if we increase the rate base by the above difference of $5,880,363, and also decrease the annual actual depreciation allowance by $589,531, the gross revenue reasonably needed to supply a reasonable net revenue will be $136,743 less than would be required on a rate base depreciated by $9,350,689 with annual depreciation allowance of $1,072,000. (The figure $589,531 is arrived at by [fol. 226] deducting the amount of $482,469 from $1,072,000 and the item $482,469 is derived from the testimony of the Company's engineer as to actual annual depreciation as we hereinafter more fully set forth).

Consequently, if we accept the Commission's figures for depreciation annuity, as we are disposed to do, as will hereafter appear, the allowance for accrued depreciation of $9,350,689 works no injustice to the Company in its net revenue on the estimates of its own engineers. We have used the rate of 7.7 per cent for income, and the depreciation annuity at $1,072,000, in the foregoing computation but will deal further with both items later in this opinion.

Depreciation Annuity

Depreciation figured by the engineer of the Commission, R. A. Wehe, based upon the report and observation of P. E. Dufour, valuation engineer for the Commission, was arrived at on the straight line basis by assigning to certain portions of the plant their reasonable life expectancy, and deducting for each year's depreciation a percentage of the reproduction cost which that year bears to the total life expectancy of the element under consideration. For illustration, the life fixed for the structures in the production plant

is 33 years. The reproduction cost $1,450,353, the annual depreciation 3.0303 per cent, giving the annual depreciation for each year of the 33 years of the life of the structure of $43,950. The accrued depreciation would represent a similar amount deducted for each year of the past life of the structure. For this particular item the accrued depreciation [fol. 227] would be $362,587. This would indicate that the structures were about 9 years old. Similarly, we have a life of 25 years assigned to the boiler plant equipment, 19.56 years for the production equipment, 40 years for the storage equipment, 20 years for miscellaneous production equipment, 20 years for by-product structure equipment, 35 years for structures in the distribution system; 20 years of distribution station equipment; 30 years for consumers meters and registers, 10 years for installation on consumers premises, and so on. The Commission's engineer, Mr. Wehe, used as a rate base for estimating depreciation the reproduction cost new plus 6 per cent for overhead ($64,509,690), and for convenience we use his figures. He finds the depreciated rate base on the straight line basis as $48,797,227 and the accrued depreciation $15,712,463 (which is equal to $64,509,690 minus $48,797,227). Upon the same basis (straight line) he finds the depreciation annuity $2,331,813. (These figures include special allowance for wrought iron pipe depreciation, which amounts to $56,706 per annum). This method of estimating the depreciation is in accord with the decision of the Supreme Court in United Railways v. West, 280 U. S. 234:

"The allowance for annual depreciation made by the commission was based upon cost. The court of appeals held that this was erroneous and that it should have been based upon present value. The court's view of the matter was plainly right. One of the items of expense to be ascertained and deducted is the amount necessary to restore property worn out or impaired, so as continuously to maintain it as practicable at the same level of efficiency for the public service. The amount set aside periodically for this purpose is the so-called depreciation allowance. Manifestly, this allowance cannot be limited by the original cost, because, if values have advanced, the allowance is not sufficient to maintain the level of efficiency. The utility 'is entitled to see that from earnings the value of the property invested is kept un-

impaired, so that at the end of any given term of years the [fol. 228] original investment remains as it was at the beginning.' Knoxville v. Knoxville Water Co., 212 U. S. 1, 13-14. This naturally calls for expenditures equal to the cost of the worn out equipment at the time of replacement; and this, for all practical purposes, means present value. It is the settled rule of this court that the rate base is present value, and it would be wholly illogical to adopt a different rule for depreciation. As the Supreme Court of Michigan, in Utilities Commission v. Telephone Co., 228 Mich. 658, 666, has aptly said: 'If the rate base is present fair value, then the depreciation base as to depreciable property is the same thing. There is no principle to sustain a holding that a utility may earn on the present fair value of its property devoted to public service, but that it must accept and the public must pay depreciation on book cost or investment cost regardless of present fair value. We repeat, the purpose of permitting a depreciation charge is to compensate the utility for property consumed in service, and the duty of the commission, guided by experience in rate making, is to spread this charge fairly over the years of the life of the property.' And see Southwestern Bell Tel. Co. v. Pub. Serv. Comm., 262 U. S. 276, 288; Georgia Ry. & P. Co. v. R. R. Comm., 262 U. S. 625, 633."

If we accept the estimate of the Commission's engineer for annual depreciation of $2,331,813. on the straight line basis, it would seem to follow that we should also accept his estimate of accrued depreciation of $15,712,463, and vice versa. As against this aspect of the case we have the contention of the company, based upon the estimates of its engineers, that the total accrued depreciation reflected in the actual physical condition of the Company's properties ascertained by as careful an inspection thereof as was possible, is only $3,470,326. It is claimed by these engineers, however, that the balance of the depreciation reserve ($9,350,689 minus $3,470,326), namely, $5,880,363, should be held in the reserve as a contingent reserve. His theory can perhaps best be indicated from some short excerpts from his testimony:

[fol. 229] "Q. Applying your estimate, or rather, your inventory and valuation of accrued physical deterioration to the depreciation fund now on hand by the Company,

would the balance remaining, in your opinion, be more or less or adequate as a contingency reserve?

"A. As on January 1, 1930, the Company has a balance in the depreciation reserve fund for the Gas Department of $9,350,689.16. I have deducted for cost to restore or for accrued depreciation $3,470,326, which would leave $5,880,-363 in the reserve as a contingency fund. In my opinion, that is not sufficient for a property of this size, operating under the conditions under which it is operating.

"Q. In the handling of a contingency reserve how is the interest on that reserve to be credited?

"A. That goes, of course, against surplus and is not charged to operating expenses.

"Q. The interest on the contingency fund, is that added to the fund itself?

"A. Yes, it is.

"Q. And in your opinion, as just expressed, the amount that would be left in the fund after the deduction of that estimate of accrued depreciation or deterioration would not be in excess of the amount reasonably required by this Company for a contingency reserve?

"A. That is correct.

* * * * * * *

"Mr. Von Shrader: Mr. Luick, referring to your accrued depreciation in the sum of $3,470,326, you take that as depreciation adding up over the total life of the Company, do you not?

"A. That is the depreciation which existed as of January 1, 1930, yes.

"Q. And from what prior date?

"A. From the date of the earliest installation of any property which the Company had and which was still used and useful as of January 1, 1930.

"Q. Have you any opinion as to the first prior date that you could take in that connection?

"A. No. It would be a very rough one, probably around 1889. That is the earliest figure that I remember.

"Q. Well then, in figuring accrued depreciation you would not figure that as of one year but you would figure it as of a considerable number of years?

"A. No, I figured the accrued depreciation as I see the physical property at the time that I inspect it, regardless

of how many years it took to accumulate that accrued depreciation.

"Q. But, as a matter of practice, in any operating company that depreciation is one of slow growth?

"A. It may or may not be one of slow growth. In this case apparently it was, because I think the physical properties of this Company are in very good condition.

[fol. 230] "Q. Now, you have testified, as I understood you, that deducting that accrued depreciation from a depreciation reserve fund of the Company, that you had left in the depreciation reserve fund the sum of $5,880,363, which you considered insufficient for that purpose?

"A. Yes.

"Q. Now, basing a depreciation reserve fund upon a slow depreciation of the Company's property, why should that be insufficient?

"A. Because there are numerous contingencies which may require that sum or sums in excess of that amount for, we will say, immediate use. We are faced constantly, for instance, with the necessity of replacing mains, taking them out of the ground and moving them away because of a change in street grades or widening of the streets. There is no possible way of determining in advance how much that is going to be. It depends entirely upon the rate at which the city grows and the direction in which it may grow. As to the physical conditions of that main, it may be just as good as the day that it went into the ground and yet it would require a contingency reserve to take care of such replacements.

"Q. I will ask you this: What is the general life of the mains of the Los Angeles Gas and Electric Corporation? Have you formed any opinion on that at all?

"A. I have no opinion on that.

"Q. Well, assuming that the life of the mains is 20 years, you don't mean to say that the Company would be faced with the expediency of buying new mains all in one year?

"A. Not the entire system, but any considerable portion of the system might be required, and the city does not ask the Company whether or not the main on a given street has been in the ground for 20 years before it decides to widen the street or to re-grade it. It is not a matter of the life or the age of the main in the ground at all.

"Q. You don't mean that the Company would be faced with the contingency of spending over $9,000,000 in any one year, do you?

"A. I think I said $5,000,000, and I don't mean to say it should all be spent in one year. It may be spent at any time in the existence of the Company, but it does need that much money as a safeguard.

* * * * * * *

"Q. What I am referring to is I wanted you to explain in a little more detail your theory that the depreciation reserve fund of over $9,000,000, after the deduction of the accrued depreciation, is insufficient on the bases or in regard to the facts that there is slow depreciation, relatively slow depreciation, as you have stated?

"A. In the first place, the depreciation reserve fund, after the deduction of accrued depreciation, is $5,880,000, as I remember the figure. So that your premise there was [fol. 231] wrong, and at the same time it does not change the conditions materially. The fact is that your depreciation reserve does not necessarily have any relation whatever to the accrued depreciation of the property. The property may be in perfect condition and yet may require replacement, as has happened time and time again in the history of this Company. The accruals must be made on some sort of uniform basis over the period of years so that the consumer who benefits by the use of the main pays his share toward the proper depreciation reserve which is necessary to replace the distribution system or the plant as replacements are required. The actual depreciation may be entirely a different thing. It may happen overnight. We could have a gas holder down here which is in perfect condition and yet if we should have an explosion that replacement could not have been foreseen and would have to be met immediately and we would have to have in the contingency fund a sufficient amount of money to make that replacement, and we would be entitled to have in such a fund such an amount.

"* * * you have figured there, or Mr. Hoff has figured for you, that the total cost to restore steel gas mains pursuant to table 4 is $860,267.40?

"A. That is correct.

"Q. And as I understand the method of computation there, it has not been based upon the age of the pipe but is based entirely upon the inspections and the computations made in the various tables?

"A. Yes, sir.

"Q. Now, will you explain in greater detail why the age of the pipe was not considered?

"A. Because, in my opinion, the age of the pipe has no bearing upon the accrued depreciation in the pipe. Cast iron main, for instance, is practically everlasting except under unusual conditions such as cases of electrolysis, to which I have previously referred. Steel mains, under proper conditions, would also have long lives, not as long perhaps as cast iron, but at the same time there is no reason why steel mains should deteriorate if the soil conditions are such that the deterioration is not set up. We have here in Los Angeles what is perhaps a rather unusual condition: We have, in the first place, your mountains here close to the shore, fairly close to the shore, with a decided and direct slope downward which tends to drain away any moisture almost as quickly as it falls to the ground. You have also the fact that your rains come intermittently, possibly only once a year with minor exceptions, and come at one time and after they are over with there is no further rain except a slight sprinkling on occasions. You have the next condition that in a city like Los Angeles, which is developed as it is, that most of the streets are paved with hard paving. Consequently, rain that falls rarely even gets into the ground and, therefore, does not occasion oxidation in the mains. So all the way through you have unusually favorable conditions as to mains and as to oxidation or rusting away of mains, consequently, the age of the main itself has no bearing whatever on its actual physical condition."

[fol. 232] Upon this theory about two-thirds of the reserve for depreciation is not necessary to take care of past depreciation, but was properly allowed to and set up by the Company as a contingent reserve for future depreciation, which might occur from causes not ascertainable at the time the reserve was set up.

If we apply to his depreciation annuity of $1,300,000 the same proportion of actual to contingent depreciation (that is, $3,470,326 to $9,350,689), it would follow as his opinion

that about one-third of that amount ($1,300,000) would represent the actual depreciation accruing in the year 1931 and the balance would represent a contingent reserve, or, to be exact, the annual actual physical depreciation would be $482,430. In the light of these facts the contention of the Company's engineers that the accrued actal depreciation was $3,470,325, and that the actual physical depreciation of the property for the year 1931 would be $482,469, is reasonably consistent. The difficulty in determining the controversy arises from the fact that the Commission's engineers, whether estimating the depreciation upon a sinking fund method, or upon a straight line method, assume a fixed actual physical depreciation annually, and estimate the loss due to such depreciation. The Company's engineers, on the other hand, insist upon the principle of actually observed depreciation, both as a deduction for accrued depreciation and as a basis for determining the annual depreciation. We might agree that the methods of the Company's engineers were the more logical, were it not for two facts. First, the question of depreciation must be based in a measure upon the broad experience of the engineering profession which represents the accumulated knowledge and wisdom of that profession. That judgment is exercised in assigning to each element of the plant such a length of life as [fol. 233] engineers, guided by the experience and knowledge of their profession, assign thereto. It is upon this theory that the engineers of the Commission have made their estimates. Second, the engineer for the Company insisted upon a "contingent reserve" in addition to the annuity for actual depreciation. It is true that this reserve is claimed upon the theory that contingencies may happen which cannot be reasonably anticipated, but we find no basis in the law for the allowance of such a reserve aside from those cases which hold that a company is entitled to accumulate some little surplus as a part of its financial set-up. Such a surplus has been and is being allowed to the Company.

In view of this wide variation between the estimates of the Commission's engineers on one hand and of the Company's engineers on the other, the allowance by the Commission of $1,072,000, is evidently not far amiss, for if we deduct from the estimate of the Commission's engineer for annual depreciation the same proportionate amount which we have deducted from his estimate of $15,345,154, for ac-

crued depreciation, we would have the amount of $1,420,908 as the depreciation annuity. This amount includes a depreciation annuity upon $10,917,727 gas manufacturing plant. On one item alone of gas manufacturing equipment, (reproduction cost $9,060,521, on six per cent overhead basis) the depreciation annuity figured by the Commission's engineer Wehe is $464,331. This deducted from the above amount ($1,420,908 minus $464,331) would give a depreciation annuity of somewhat less than $1,000,000, which is still more than twice the amount claimed by the Company's engineer as the actual physical depreciation for 1931, as we have construed his testimony above. We do not wish to be understood, however, as holding that the Company is entitled to [fol. 234] no depreciation annuity upon the gas manufacturing plant, as we find it unnecessary to decide that question. Without further analysis of the evidence we feel in any view that the depreciation annuity fixed by the Railroad Commission, $1,072,000, is sufficiently accurate as an estimate for depreciation to be deducted from the gross revenues in the determination of the question as to whether or not there has been a confiscation of the plaintiff's property. The evidence would justify a lower or higher annuity but at best the amount is an estimate and we think the finding of the Commission under all the circumstances cannot be said to be unreasonable.

Gross Return, Expenditures, Net Income

The Commission estimated the 1930 return under the new rate schedule at $15,003,000, the total operating charge at $10,388,000, and the net return $4,615,000. The principal objection to the estimate of revenue and operating expense made by the Company is that the estimate of the revenue is too optimistic. Two points are urged upon this proposition, namely, that the depression tends to reduce the consumption of gas and consequent revenue to the Company, but the greatest emphasis is placed upon the effect of temperature upon the revenue of the Company. It appears that gas is so largely displaced by electricity for lighting purposes that the main use of gas in Los Angeles is for heating and the amount so used depends upon the temperature. The Commission's experts estimated the temperatures reasonably to be expected during the year 1931 and succeeding years by taking an average of the temperatures for 22 years.

On the other hand, the Company claims that the average [fol. 235] of the preceding five years should be taken. The temperatures during the five years were much higher than the average for 22 years and the resulting difference in estimated revenue to the Company for the year 1930 is about $433,000. So far as the year 1931 is concerned, we take judicial notice of the fact that the temperatures have been the lowest for many years and much lower than the average for 5 years. We think it too clear for argument that in estimating a rate for a number of years in the future an average for past years should be considered. This much is conceded but it is equally true, we think, that the greater number of years considered in fixing the average the greater probability that the average thus fixed will reflect the average conditions in the future. It may be when the present investigation under way by the Smithsonian Institute with reference to solar radiation has been completed science may demonstrate that temperature changes are periodical and occur in regular cycles of say eleven years. In that event, of course, the average for the entire cycle would be the desirable one as a standard but until such scientific demonstration the utilization of all available data by an average extending over a long period of time, is the better practice. We therefore hold that there is nothing unreasonable in the estimate of returns by the Commission so far as temperature is concerned, and there is nothing to indicate that due consideration was not given to the possible effect of the depression upon the consumption of gas.

[fol. 236] Summary

If we take the "historical reproduction cost" appraisal in the table hereinbefore set forth (from p. 119) using historic cost overhead of 6.35 per cent, the appraisal of the Company's engineers would give $59,082,470 ($55,554,744 plus 6.35 per cent thereof), the appraisal of the Commission's engineers, $58,367,949 ($54,882,886 plus 6.35 per cent thereof), and the value fixed by the Commission $58,258,061. The estimate of the Company's engineers is only $824,409 more than that of the Commission and the difference between the estimates of the Commission's engineers and the value fixed by the Commission is only $109,888 or less than one-fifth of one per cent. If we take the finding of the

Commission as to historical reproduction cost as giving the historical cost using historical overhead (6.35 per cent), and add to that $155,000 for interest during construction and $429,126 for organization and franchises giving $54,842,187, then add the Commission's figures for materials and supplies, $450,000, and $645,000 for working cash capital, it gives us $59,937,187. To this amount the Commission added one-half the estimate of additions and betterments for the year 1930, $767,103, but the Company calls attention to the fact that the rates were fixed to begin on the 1st of January, 1931, and by that time the entire amount of that additions and betterments would have been added to the capital investment, and therefore, they should have twice the sum allowed, that is the whole amount involved ($1,534,206). This would add $1,534,206 giving $61,471,393 as the reasonable historical reproduction cost with historic overhead plus the other elements of value above considered necessary to be included in the rate base, from which $9,350,689 is to be deducted in order to determine the [fol. 237] depreciated historic cost. Deduct $9,350,689 from this base and we have $52,120,704. The corresponding figures for the estimate of the Company's engineers would be ascertained by adding the amount above stated as the basic difference between the estimates of the Commission and of for the Commission's engineers ($109,888) giving $52,230,- for the Commisison's engineers ($109,888) giving $52,230,-592. We thus have:

Company's engineers' historic cost modified as above stated	$52,945,113
Commission's engineers	52,230,592
Commission's findings modified by historic depreciation as above	52,120,704

One of the Company's contentions is based upon the claim that working cash capital should include the deferred payments due it from the users of gas owing to the lag between the furnishing of the gas and the receipt of moneys therefrom. In other words, it wishes to include in its working cash capital its bills receivable and exclude its bills payable. We see no reason for this allowance. The working cash capital represents the amount of cash that the Company is required to carry on hand to do business, and for

that reason necessarily idle money. We think the allowance of $645,000 ample for this purpose and have based the figures for a rate base on both historic and reproduction cost new on that basis. The foregoing figures represent as nearly as may be ascertained the modified historic cost, based in each instance upon the appraisal of 1915 approved by the Commission in 1917 plus net cost of additions and betterments thereafter (1915-1929), plus increased value of land, plus other factors required to be found in the rate base, less depreciation.

[fol. 238] The estimate of reproduction cost new by engineer Luick for the Company was $77,586,700 (not including going concern value) and that by engineer Dufour for the Commission using a four year average pricing period (1926-1929) was $73,637,542. These estimates include overhead costs at 24.27 per cent and 22.32 per cent respectively. We have hereinbefore stated that we think the historic overhead, that is the overhead of 6.35 per cent charged to capital on the books of the Company to be the proper allowance for this item in fixing the fair value of the Company's property for rate making purposes. The Company's estimate of $77,586,700 modified to include only 6.35 per cent overhead is $66,518,476 to which is to be added $450,000 for materials and supplies, $155,000 for interest during construction, $645,000 for working cash capital and $1,534,206 for additions and betterments for 1930 giving a total reproduction cost new undepreciated of $69,302,682. From this total ($69,302,682) is to be deducted $9,350,689 for depreciation, as we have stated, being the amount of the reserve set aside by the Company to take care of accrued depreciation leaving $59,951,993 representing reproduction cost less depreciation excluding going concern value as estimated by the Company's engineers. This same procedure with reference to the estimate by the Commission's engineer gives a reproduction cost depreciated, excluding going concern value, of $57,894,983. Thus we have reproduction cost new depreciated modified as aforesaid, without going concern value:

Company's engineers	$59,951,993
Commission's engineers	57,894,983

If for convenience we take the estimate of the Commission's engineer, we have cost of reproduction new $57,894,983

[fol. 239] which does not include going concern value, while the historic cost of $52,945,113 does include many, but not all, of the elements of going concern value paid for by the Company from the current revenues derived from the consumers. As to this element of going concern value, we therefore lean toward the historic cost. Also, as we have stated, an element of going concern value is found in the rates fixed in so far as those rates give a profit to the common-stockholder upon the cost of the bond and preferred stock money. If we take a rate base of $60,-704,000 at 7.7 per cent used by the Commission, we have a leeway of $2,809,017 ($60,704,000 minus $57,894,983) in the rate base over depreciated cost of reproduction new to take care of the overhead charges, the promotion expenses, and the going concern value not otherwise allowed for in the valuation or rate. We think this is sufficient.

If we take as our fair value the $65,500,000 fixed by the Commission as a rate base at 7 per cent, we have $7,605,017 over depreciated cost of reproduction new as leeway to take care of going concern value, a greater amount of which must be reflected in the rate base in view of the decreased profit on bond and preferred stock money, and also to take care of overhead, promotion charges and depreciation not otherwise included, if any.

The Company insists that the evidence requires a finding that 8 per cent is a reasonable rate of return upon the fair value of its property, but we cannot sustain this contention. The question of the percentage of return upon a public utility depends to a large extent upon the hazard as well as the current price of money which also varies with the hazard. We do not accept the testimony of financiers that 8 per cent represents the rate of return upon "similar" enterprises, for the fact is that there are no similar enterprises except other gas companies and electric companies [fol. 240] operating in California under the jurisdiction of the California Railroad Commission whose rates are fixed in the same manner as those of the plaintiff. The facts with relation to such investments are stated by the Commission in its opinion and note thereto as follows:

"Under rates fixed on this basis utilities of this character have grown strong and prosperous. They have experienced no difficulty in securing capital for extensions and new development. Confidence in investments in such

utilities has increased and capital has flowed to this field of investment readily and at a gradually decreasing rate or cost.*

* "In the published annual report of the Railroad Commission for 1918-9 it appears that at the close of the year 1918 the aggregate fixed capital of the gas and electric utilities of the State was $468,688,407.07. Between 1918 and 1928 this increased rapidly, the total aggregate fixed capital mounting to a total of $1,185,372,478.71 by the close of 1928 (annual report for 1928-9). The aggregate par value of issued bonds and stock of gas and electric utilities, as taken from the annual reports of the Commission, was $543,285,594.04 in 1918 and $1,123,658,757.82 in 1928, an increase of $580,373,163.78. The increase includes $310,500,627.50 of bonds. An analysis of reports filed with the Commission shows that the remainder of $269,872,536.28 consists of $219,943,547.94 of preferred stock and $49,928,988.34 of common.

"The following tabulation shows the basis on which the Railroad Commission has authorized Southern California Edison Company and Pacific Gas and Electric Company to issue bonds and preferred stocks, being indicative not only of their growth but of the lessening cost of money:

Southern California Edison Co.—Bonds

Year	Reference	Amount	Effective rate, per cent
1919	16 CRC 423	$8,000,000	6.58
1920	18 CRC 164	5,000,000	7.54
1921	20 CRC 294	6,000,000	7.80
1922	22 CRC 417	5,160,000	5.75
1923	24 CRC 46	12,500,000	6.50
1924	24 CRC 594	14,000,000	6.45
1925	.....	.....	.....
1926	Dec. 16781	40,000,000	5.40
1927	30 CRC 355	30,000,000	5.20
1928	.....	.....	.....
1929	33 CRC 461	15,000,000	5.40
1930	Dec. 22121	5,000,000	5.18

Pacific Gas and Electric Co.—Bonds

1918	16 CRC 184	$5,000,000	6.20
1919	.....	.....	.....
1920	19 CRC 140	10,000,000	7.63
1921	19 CRC 875	1,000,000	7.63
1922	21 CRC 128	10,000,000	6.40
1923	23 CRC 889	10,000,000	6.06
1924	26 CRC 307	12,500,000	5.90
1925	25 CRC 531	10,000,000	5.87
1926	28 CRC 62	10,000,000	5.37
1927	30 CRC 377	15,000,000	4.90
1928	31 CRC 114	20,000,000	4.75
1930	Dec. 22708	25,000,000	4.92

"The Los Angeles Gas & Electric Corporation in respect to its gas operations has been before this Commission frequently since the time the Commission was given jurisdiction over its rates, sometimes on its application for authority to increase its rates, sometimes at the instance of the Commission or of complainants looking to reduction of rates. In all of these various proceedings rates were tested or measured by the standard stated above. Its rate base for its gas department has grown from approximately $12,500,000 in 1916 to nearly $59,000,000 in 1929, and its independent active meters from 131,500 to 351,000 during the same period.

"The growth in its gas department has been even exceeded by that in its electrical department, its rate base in that having increased from approximately $6,000,000 in 1916 to over $41,000,000 in 1929. The Company's total invested capital during the past fifteen years has increased to a sum more than five times the amount at the beginning of that period.

"This remarkable growth has been financed largely by the sale of the Company's bonds and preferred stock, these having been marketed at a gradually lessening cost, so that

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Southern California Edison Co.—Preferred Stock

Year	Reference	Amount	Effective rate, per cent
1919	.....	.....	....
1920	.....	.....	....
1921	.....	.....	....
1922	22 CRC 45	$9,500,000	7.00
1923	23 CRC 651	5,000,000	7.00
1924	25 CRC 579	10,000,000	6.86
1925	27 CRC 130	10,000,000	6.25
1926	28 CRC 370	10,000,000	6.25
1927	30 CRC 754	10,000,000	5.85
1928	31 CRC 439	10,000,000	5.61
1929	32 CRC 745	10,000,000	5.61
1930	.....	.....	....

Pacific Gas and Electric Co.—Preferred Stock

1918	16 CRC 184	$5,000,000	7.27
1919	16 CRC 983	3,500,000	7.06
1920	19 CRC 7	5,000,000	7.50
1921	20 CRC 688	2,000,000	7.50
1922	22 CRC 166	5,000,000	6.86
1923	22 CRC 923	2,500,000	6.67
1924	.....	.....	....
1925	27 CRC 335	2,500,000	6.32
1926	29 CRC 137	1,000,000	6.00
1927	29 CRC 276	5,000,000	6.12
1928	32 CRC 221	10,000,000	5.61
1930	Dec. 22488	10,000,000	5.61

the present annual cost of its bond and preferred stock money is 6.17 per cent. Also, its depreciation reserve has been invested in the property. If this be included with its bond and preferred stock money at the rate of 6 per cent, being the rate at which it is required to account for its reserve, the annual cost of its bond, preferred stock and depreciation reserve money is but 6.14 per cent. On December 31, 1929, the Company had outstanding in the hands of the public $47,070,000 par value of bonds, $19,469,995 par value of preferred stock, and $20,000,000 par value of common stock. Its depreciation reserve on that date was reported at $16,804,105.15. All of its common stock is owned by Pacific Lighting Corporation. Since 1916 but [fol. 241] $4,500,000 of this stock has been purchased for cash, $5,500,000, however, having been distributed to Pacific Lighting Corporation in the form of stock dividends, representing earnings left in the property. Dividends have been paid on its common stock of 7.20 per cent per share (($100 par value) in 1916, 1917 and 1918; 7.4 per cent in 1919; 8.4 per cent in 1920, 1921 and 1922; 8.7 per cent in 1923; 33.75 per cent in 1924; included in which is 25 per cent as a stock dividend of $2,500,000; 9 per cent in 1925; 9.815 per cent in 1926; 35.17 per cent in 1927, which includes a stock dividend of 21.42 per cent, or $3,000,000; 15 per cent in 1928, and 17 per cent in 1929. The Company's surplus has grown from $381,212.97 in 1916 to $4,176,663.09 in 1929, while its depreciation reserve increased from $3,804,383.36 to, as said above, $16,804,105.15."

[fols. 242 & 243] We have a unique situation in California, for all such companies are under the jurisdiction of one rate-making body, the Railroad Commission. As these corporations have been successfully operated and financed for nearly 20 years under its supervision and have extended their operations and increased their capital in conformity with the rulings of the state Railroad Commission, it would seem to follow that the income allowed by the Railroad Commission as return upon the money invested would be a better test of what constitutes a reasonable return than the off-hand testimony of financiers concerning the general cost of money for similar enterprises.

In view of our conclusion as to the ultimate result, we deem it unnecessary to go further than to say that a rate base of $60,704,000 with a return of 7.7 per cent is not confiscatory and that neither the base nor the rate is below the minimum allowable to furnish a return that is non-confiscatory. The same is true of the rate base of $65,500,000 with a return of 7 per cent thereon. I find myself in concurrence in the main with the reasoning and conclusions of Judge James, and particularly in his conclusions as to the fair rate and rate base. I have, however, thought fit to express my views on going concern value, accrued depreciation and depreciation annuity more at length, as I find the subject particularly difficult.

The injunction should be denied.

[fol. 244] IN UNITED STATES DISTRICT COURT

[Title omitted]

PLAINTIFF'S OBJECTIONS TO PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW AND REQUEST FOR FINDINGS

The plaintiff above named, pursuant to Rule 44 of the United States District Court, for the Southern District of California, having been served with a proposed form of decree to be made and entered in the above-entitled matter, in which decree it is provided, among other things:

"The opinion of the Court, filed on April 8, 1932, is hereby formally adopted and ordered filed as the findings of fact and conclusions of law in accordance with the requirements of Equity Rule 70½."

and upon the assumption that it is thereby intended that the opinion of the Honorable Wm. P. James, concurred in by the Honorable Frank C. Jacobs, heretofore filed in the above entitled matter, is adopted as the findings of fact and conclusions of law therein, specifies the following errors therein and objections thereto:

1. Said opinion fails to find the facts, as required by [fol. 245] Equity Rule 70½, in the following respects:

(a) As to the fair value of plaintiff's property used and useful in the public service;

(b) As to the fair rate of return thereon;

(c) As to the gross and net revenues reasonably to be expected under the rates prescribed by the order of the California Railroad Commission, set forth in the Bill of Complaint herein;

(d) As to the amount included in determining the fair value of plaintiff's property devoted to public service for indirect construction costs of plaintiff's physical properties, i. e., engineering and superintendence, law expense, injuries, damages and miscellaneous, errors, omissions and contingencies, and taxes and interest during construction (sometimes called "overhead costs");

(e) As to the amount included in determining the fair value of plaintiff's property devoted to public service for the going value of plaintiff's said property, and if no such amount is included, the reasons therefor;

(f) As to the amount to be deducted from the fair value of plaintiff's said property for the accrued depreciation thereof.

Plaintiff requests that special findings of fact be made in respect of each such matter, in accordance with the provisions of Equity Rule 70½.

2. Said opinion and the conclusions therein expressed err [fol. 246] in treating the case as a proceeding to review the regularity of the Commission's proceedings. As shown by the Bill of Complaint, the rates prescribed by the order complained of are attacked as being confiscatory. Upon submission of the cause it was stipulated that the pleadings and affidavits on file (including the record before the Commission appended to the affidavit of H. G. Mathewson) be deemed in evidence as if all matters therein had been testified to in open court. It is admitted by defendants that plaintiff is entitled to the independent judgment of the court upon the facts as disclosed by the evidence before the court and to the independent judgment of the court as to the law applicable thereto. Said opinion fails to find the facts or state the conclusions of law of the court in respect of the evidence before the court, but is confined entirely to an approval of the methods of procedure and the sufficiency of the evidence before the Commission, tested by a rule expressed as follows:

"• • • that in every matter wherein, under any view, a discretion can be said to have been fairly and reasonably exercised, the court will not interfere with the orders made."

3. Said opinion should be amended to correspond to the facts of record, in the following respects:

(a) In said opinion (page 3, line 30 to page 4, line 3) it is stated:

"Referring to orders made during previous years, the Commission's records showed that on the valuation bases adopted by it, estimated returns to the Company were as follows: 1917, 8 per cent; 1918, 7.87 per cent; 1921, 8 per cent; 1926, 7.8 per cent."

[fol. 247] Said statement implies that plaintiff has in the past earned such return, which is not correct. As appears from Table I of the Commission's decision (Bill, page 35), the actual return to plaintiff, even on the Commission's insufficient valuation basis, was less than that allowed by the decisions of the Commission throughout the greater part of the Company's history under regulation, and on the basis of correct historical costs was deficient in a still greater degree. The facts are, and plaintiff requests the court to find, that the return to plaintiff was as shown by the following table:

Comparison of Commission's Finding of Return on Its Own Estimated Historical Cost of Property, Rate of Return Allowed in Rate Cases, and Return on True Historical Cost

Year	Rate of return found by Commission, decision Table I (Bill, p. 35)	Return fixed as reasonable in Commission decisions	Return on true historical cost (Ex. 63)
1916	9.16%	....	5.47%
1917	8.54	8.00%[1]	5.00
1918	6.77	8.00	5.05
1919	8.31	7.87[2]	6.67
1920	7.94	7.87	6.53
1921	5.25	8.14[3]	6.14
1922	7.12	8.14	7.62
1923	6.12	8.14	6.41
1924	6.65	8.14	6.50
1925	6.79	8.14	6.23
1926	6.36	8.14	5.70
1927	8.88	7.80[4]	7.99
1928	8.83	7.80	7.71
1929	9.66	7.50[5]	8.50

[1] Decision 4558, Aug. 21, 1917, 13 C.R.C. 724, increasing rates.
[2] Decision 6139, Feb. 21, 1919, 16 C.R.C. 478, increasing rates.
[3] Decision 9132, June 22, 1921, 20 C.R.C. 93, increasing rates.
[4] Decision 17830, Dec. 31, 1926, 29 C.R.C. 164, no change in rates, but based rates on service of natural gas.
[5] Decision 20448, Nov. 13, 1928, 32 C.R.C. 379, reduced rates, to basis now in effect.

[fol. 248] (b) In said opinion (page 4, lines 3 to 8) it is stated:

"At a hearing before the Commission in 1917, (that being the first under which the Commission acted to regulate complainant's rates), it was shown that there was a difference of only $300,000 between the historical cost valuation and the Commission and that of the Company."

Said difference of $300,000 was the difference between the plaintiff's estimate of historical cost (without overheads, and relating to tangible and intangible fixed capital items only) and the amount fixed by the Commission in this case. There is no evidence of record as to the amount of such difference in the 1917 proceedings.

(c) In said opinion (page 4, lines 13 to 16,) it is stated:

"In the proceeding eventuating in the order here complained of, the Commission took the 1917 rate base and built up on that to accumulate its final figures;"

there should be added to statement the following: "of historical cost."

Such method was in fact that used to determine the historical cost, but it was not used to determine fair value.

(d) In said opinion (page 5, lines 25 to 27) it is stated:

"In its gas service department, operated within the City of Los Angeles, the plaintiff is confronted with no real competition."

Said statement is in error in that the evidence herein shows that throughout the area served by plaintiff it is in [fol. 249] severe competition with oil, electricity and other forms of fuel.

(e) In said opinion (page 5, line 28, to page 6, line 26) it is in part said:

"Referring to the growth and stable position of the Company on its entire business (gas and electric), the Commission in its opinion said (and the evidence supported the statement):

"'* * * the present annual cost of its bond and preferred stock money normally is 6.17 per cent. * * *'"

The statement quoted from the Commission's opinion by the court, and the court's holding that the evidence supports said statement, is erroneous for the reason that it appears from the evidence that said amount of 6.17% is computed solely with respect to the present interest rate on presently outstanding securities and without regard to the actual cost incurred by plaintiff in procuring the funds now represented by presently outstanding securities; that it is shown by the uncontradicted evidence that the actual cost of such funds is:

Bond money	6.40%
Preferred Stock money	6.76%
Common Stock money	8.50%

and the weighted average cost of money with a minimum surplus required to support the same, 7.891% (Exhibits 39, pages 26, 28).

(f) In said opinion (page 7, lines 11 to 15,) the following statement is quoted from the decision of the Commission:

"However, just as the assumption that the Company's property was constructed at prices now current increases the actual cost figure, so a similar assumption that the Company was financed on the bases of current money cost would re-
[fol. 250] duce the figure of 6.17 per cent to 5.64 per cent."

While said statement is correctly copied, it is admitted in the brief filed for the Commission herein (Part II, Index, page 64) that the figure "5.46 per cent" is erroneous "* * * evidently due to a transposition of figures. The correct figure is 5.64 per cent * * *." As appears from said brief, such amount was computed in an erroneous manner, as set forth in paragraph (e) hereof.

(g) In said opinion (page 7, lines 16 to 28) it is stated:

"If the experience of the Company under regulation has been, as the Commission finds, that returns have exceeded estimates, then it may well be that its net will be greater than the per cent allowed under the last rate schedule. With a history of successful and profitable business, and no real competition to meet in its field of service, the hazard is small and the probabilities of continued demand assured. Electricity has not to any great extent supplanted gas as a fuel. All of the conditions noted, as affecting the

business of the Company, sustain the Commission in its statement that the plaintiff's securities are capable of being marked at moderate interest rates, and that it will continue to grow."

Said statement is in error in that the same rests upon speculation as to a possible excess of return beyond that estimated by the Commission, and moreover, the premise for such speculation is shown by the record herein to be in error in that the actual experience of the Company under regulation has been that throughout the greater part of the period the return earned by it was substantially less than that allowed by the Commission and less than a fair return upon even the historical cost of the Company's property as [fol. 251] erroneously determined by the Commission, as more fully appears in paragraph (a) hereof. Said statement is further in error in stating that plaintiff is confronted with no real competition and that the hazard is small, as more fully appears from paragraph (d) hereof.

(h) In said opinion (page 7, line 29, to page 8, line 5) it is stated:

"The Company produced two witnesses having familiarity with financial investment conditions, who testified that risks and uncertainties of the business considered, the Company should earn more than 8 per cent on the fair value of its property. The Commission was correct in saying that it was not to be controlled by this testimony in the face of facts before it."

The testimony of the witnesses appearing on behalf of plaintiff is uncontradicted in respect of the rate of return received by enterprises of corresponding risk and uncertainty to that of plaintiff in Los Angeles and vicinity. There is no evidence before the court in respect of any other or different rate of return. The Commission erred in refusing to give weight to the uncontradicted testimony of record. No other test of reasonableness of rates is recognized by law (United R. & E. Co. v. West, 280 U. S. 234). It is error for this court to disregard said evidence or to apply any other or different rule for determining the fair return to which plaintiff under the law is entitled.

(i) In said opinion (page 8, lines 6 to 11) it is stated:

"The Company claimed the historical cost of its prop-
[fol. 252] erty to be approximately $5,000,000 more than the amount fixed by the Commission. It claimed the right to charge 24.27 per cent to capital account as representing overheads from 1913 to 1929, which the Commission disallowed in large part."

Said statement is in error in that in connection with historical cost of its property, plaintiff claimed the right to charge 14.48%, and not 24.27% as stated. The claim of plaintiff to 24.27% for indirect construction costs was in relation to reproduction cost estimates.

(j) In said opinion (page 8, lines 20 to 23) it is stated:

"The Commission included in the fair value base as for franchise value an amount of $14,391.23; and as original cost of organization, (derived from records of the Company) $415,734.71."

Said statement is in error in that the amounts therein stated as allowed for franchise value and for cost of organization were allowed by the Commission in its estimate of historical cost, as appears from the decision of the Commission (Bill, page 39, Note 5). The amount allowed by the Commission in its fair value base was, for both of said sums, an aggregate of $427,406, as appears from the brief for the Commission (Part I, page 74), and as more fully appears from the dissenting opinion of Commissioner Decoto (Bill, page 91).

(k) In said opinion (page 8, lines 23 to 25) it is stated:

"Lands were included as of fair value of $3,500,000 as of December 31, 1929—which was approximately $1,900,000 in excess of original cost."

[fol. 253] Said statement is in error in that the amount included as land value, both in historical and fair value rate bases, was $1,775,588 in excess of alleged original cost thereof and not $1,900,000, as stated, as admitted by the Commission in its brief (Part I, page 73). The amount originally estimated by the land appraiser for said Commission was approximately $1,900,000, but the Commis-

sion in its decision rejected lands to the value of $192,203 from its final valuation, although its engineer had included the same in operative property.

(1) In said opinion (page 8, line 26, to page 9, line 7) it is stated:

"The Commission was very liberal in its treatment of certain items of property. The Company in its early operations furnished artificial gas. Since 1924 it has served natural gas, which is plentiful in the numerous oil fields in Southern California. There is no evidence which discredits the Commission's conclusion that the supply of natural gas will be abundant and constant. The Commission found in effect that at least two of the artificial gas manufacturing plants of plaintiff were no longer needed and might well be retired. Nevertheless, it included them in its valuation as a live necessary part of the operative property. It appears that had these plants been eliminated the fair value base would have been reduced by approximately $3,000,000."

Said statement is in error in that the Commission was not liberal in its treatment of any items of property. It is further in error in that the same implies that the plaintiff has served natural gas exclusively since 1924 and that its gas manufacturing plants have been unused throughout that period. In fact, and as shown by the evidence herein, plaintiff has served natural gas to some extent [fol. 254] since 1913, but until 1928 the same was mixed with manufactured gas or treated in plaintiff's manufacturing plants. The use of straight natural gas first began in 1927. Severe shortages of natural gas occurred in 1920 and 1921, resulting in a complete reconstruction and enlargement of plaintiff's manufacturing plants, with the knowledge and approval and under the direction of the Railroad Commission, with an expenditure by plaintiff of approximately $10,000,000 thereon (Reply Affidavit of Addison B. Day, page 4). The evidence herein shows that the supply of natural gas has been rapidly diminishing in territory close to plaintiff's field of operation and that it has been necessary to obtain gas from increasingly greater distances. The maximum period as to which there is any testimony of record as to the availability of natural gas

for plaintiff's requirements is fifteen years. The testimony is uncontradicted that at the end of said period plaintiff would have to construct a plant similar to that now existing in the same location, apart from any use of said plant in the interim. The Commission did not in effect or otherwise find that two or any of plaintiff's manufacturing plants were no longer needed or might be retired. The most that the Commission did was to imply that "somewhat doubtful need of all of these plants does have an appreciable adverse bearing upon their value" (Bill, page 66).

(m) In said opinion (page 9, line 26, to page 10, line 1, it is stated:

[fol. 255] "The method employed to obtain present costs as of June 15, 1930, was to take the 1915 appraisement as used by the Commission at the 1917 hearing, and add thereto the cost of all articles and property included in additions and betterments, as those items were particularly shown on the books of the Company, and then convert such cost prices to ruling price levels as of June 15, 1931."

Said statement is in error in respect of the method used to obtain present costs. It is admitted in the answer of said Commission (Par. VI, page 7, line 27):

"* * * that in arriving at said current price level cost said figure was obtained by pricing the inventory items at prices existing on June 15, 1930, land at its market value as of January 1, 1930, and adding thereto for engineering, etc., a percentage of 6.35%."

It is further shown in the brief for said Commission (pages 70 to 74), that said figures are derived from a reproduction cost new estimate at prices of June 15, 1930 made by Commission engineer Dufour.

(n) In said opinion (page 10, lines 1 to 12) it is stated:

"He made a comparative analysis by applying prices prevailing December 15, 1930; and another comparison, under which he assumed a four year construction period from January 1, 1926, to December 31, 1929, applying average prices prevailing during that time. Under each of

these estimates, the total valuation figure arrived at was less than the proportionate fair value base which the Commission adopted. In the estimate which assumed a four year construction period with average prices, the engineer included overhead charges of 22.32 per cent. On his preceding estimates, his overhead charges were computed at 6 per cent."

Said statement is in error in that the estimates of Commission engineer Dufour, therein referred to, relate only [fol. 256] to the appraisement of tangible and intangible fixed items, without including the items for materials and supplies and working cash capital, and included in the final valuation figures of the Commission. The estimate of Commission engineer Dufour, using June 15, 1930 spot prices, was exactly the same as that included in the Commission's finding of fair value for corresponding items, as appears from the brief for the Commission (Part I, page 72). His estimate, based on four year average prices, which said last-named estimate was the only estimate which Commission engineer Dufour testified would reasonably represent the reproduction value of plaintiff's property, was substantially higher than the value of the corresponding items included in the Commission's valuation figures. Said statement is further in error in that said Commission engineer Dufour in all of his estimates included overhead charges at 6%, 11.25% and 22.32%. He testified as to the reasonableness of only the 22.32%, and the use of any other or different percentage is without support in the record herein.

(o) In said opinion (page 10, lines 21 to 26) it is stated:

"What the Commission did then in reaching its base rate figure of fair value was to include all items of property used and useful in the operative plant of the plaintiff, and appraise the value thereof at current market prices. It included original organization costs and franchise values as well."

Said statement is in error in that the Commission admittedly did not include all items of property used and useful in the operative plant of plaintiff or appraise the [fol. 257] same at their current market prices, but on the

contrary the Commission deliberately included but 6.35% of labor and material costs for indirect construction costs, without regard to the testimony of record that the fair and reasonable amount of such indirect costs was a minimum of 22.32% of labor and material items.

(p) In said opinion, (page 10, lines 26 to 30) it is stated:

"It assumed a live active plant, and affirmed that the ultimate total included all costs of attaching business as the same had accrued and been accounted for."

Said statement is in error in that the Commission nowhere affirmed that its total valuation estimate included all or any costs of attaching business, but on the contrary said Commission affirmed and repeated throughout its argument herein and admitted in its answer, that no amount was included in its valuation total for going value or costs of attaching business, claiming that the same had adequately been allowed for by including in the provision for operating expense that the same had been incurred. Said statement is moreover inconsistent with the statement on page 8 of said opinion that the Company "claimed a going concern value of $9,228,667, which was rejected by the Commission," and with the statement on pages 14 and 15 that "The large amounts claimed by the Company for * * * cost of attaching business (going concern value) $9,228,667 * * *; we think were properly rejected as for their total [fol. 258] amounts."

(q) In said opinion (page 10, line 29, to page 11, line 1) it is stated:

"Its fair value figure, assuming the correct estimate and allocation of items hereinafter referred to, was one which essentially represented the investment cost at the present time, of all the operative property and its connected incidentals."

Said statement is erroneous for the same reasons stated in paragraph (o) hereof, and further for the reason that said fair value figure does not include any allowance for the going value of plaintiff's property.

(r) In said opinion (page 11, lines 13 to 25) it is stated:

"Leaving out of view for the moment the matter of overhead charges, we feel satisfied that the Commission was

justified in making use of the cost appraisal amount fixed in its order made in the year 1917. This amount was arrived at after an exhaustive investigation. The books of the Company were determined to have been accurately kept and different items of property were completely segregated so that additions and betterments costs were easily ascertained. Where a utility Company in rate proceedings adopts as correct, an amount fixed in an initial order made at the time it came under regulation, it ought not to be permitted to assail that amount at this time on the ground that it is inaccurate."

Said statement is erroneous for the reason that plaintiff did not in fact adopt as correct any value fixed by the Commission and that, despite any acquiescence by plaintiff of the use of such historical basis, it is not debarred from asserting its constitutional rights at any time.

(s) In said opinion (page 11, line 29, to page 12, line 1) it is stated:

[fol. 259] "In the hearing which resulted in the first order made affecting the Company's rates, the Company was advised that a larger amount of overhead might be charged to capital than it had customarily charged on its books to that account theretofore."

Said statement is incorrect for the reason that there is no evidence of record that the plaintiff was at any time advised that a larger amount of overhead might be charged to capital than had theretofore been charged. The only statement to that effect is a statement appearing in the decision of the Commission (Bill, page 41), which statement is without support in the evidence before the Commission or the evidence before this court.

(t) In said opinion (page 12, lines 13 to 16) it is stated:

"The Company proceeded, however, through all the years from 1913, to charge to capital account overhead costs amounting to less than an average of 6 per cent."

Said statement is erroneous for the reason that the charges made by plaintiff upon its books for indirect construction costs during the years 1913 to 1917 were prior to

the first finding of value of plaintiff's property by the Commission, wherein "overhead charges substantially higher than those charged by the Company in preceding years and approximating those now claimed" were allowed by the Commission (Bill, page 41), and for the further reason that the overhead charges set up on plaintiff's books in the years subsequent to 1926 approximate those now claimed, as more fully appears from the uncontradicted testimony before the [fol. 260] Commission that the percentages of said indirect cost set up on plaintiff's books were as follows:

Year	% charged by the company	Year	% charged by the company
1913	1.90	1922	3.76
1914	3.65	1923	4.00
1915	4.54	1924	5.69
1916	3.07	1925	7.69
1917	2.44	1926	10.28
1918	6.79	1927	8.81
1919	1.39	1928	12.57
1920	1.85	1929	10.85
1921	3.25		

(u) In said opinion, (page 12, lines 16 to 18) it is stated:

"In the last proceeding, that here reviewed, the Company sought to reform its accounts and charge an overhead of 24.27 per cent."

Said statement is in error for the reason that in this proceeding plaintiff sought to reform its accounts only to charge indirect construction costs in the amount of 14.48%. Plaintiff claimed that the proper amount of such costs in a reproduction cost estimate would be 24.27%.

(v) In said opinion (page 13, lines 11 to 23) it is stated:

"It is true that one of the valuation engineers for the Commission testified that the Company might properly have charged to capital 11.25 per cent on account of overheads. Nevertheless, the action of the Commission in this regard, we think, was reasonable. The fact was that the Company, declining to follow the suggestion of the Commission that it assign to capital a greater amount of overhead expenditures, charged all of such expenditures ex-

ceeding approximately 6 per cent of the total thereof to operative expense, with the result that it has had during successive years the benefit of a much reduced net income [fol. 261] figure, by the use of which in turn, its rate charges have been increased."

Said statement is erroneous for the reason that the action of the Commission in the regard stated was not reasonable and under the evidence before this court the court should so find. Said statement is further erroneous for the reason that there is no evidence of record that any suggestion was made by the Commission that plaintiff should assign any greater amount to capital account for indirect construction costs, as heretofore shown in paragraph (s) hereof. Said statement is erroneous for the further reason that any errors so made by plaintiff in its bookkeeping methods have not in fact resulted in the increase of its charges or in the earning of a return in excess of that to which plaintiff was entitled, as more fully appears from the evidence referred to, including the tabulations set forth in paragraph (a) hereof.

(w) In said opinion (page 13, lines 28 to 31) it is stated:

"The amount allowed by the Commission as depreciation annuity was the sum of $1,072,000. The Company claimed that the annuity should be not less than $2,344,744."

Said statement should be amended to read:

"The amount allowed by the Commission as depreciation annuity was the sum of $1,072,000 on a sinking fund basis. The Company claimed that the annuity should be not less than $2,344,744 on a straight-line basis, which amount is the equivalent of the sinking fund annuity of $1,072,000 claimed by the Commission,"

as shown by the Reply Affidavit of H. L. Masser (pages [fol. 262] 5 and 6).

(x) In said opinion (page 14, lines 5 to 11) it is stated:

"The Commission's engineers computed depreciation amounts under straight line and sinking fund methods to be respectively $15,345,154, $7,774,867. The sinking fund method figure of $7,774,867 was the one referred to in the

Commission's opinion, and it appears that the method employed corresponds to the accounting practice of the Company."

The only testimony of record as to the actual accrued depreciation of plaintiff's physical property determined from examination and inspection of said property and appraisement of said depreciation is that such depreciation amounts to $3,470,326, as testified to by Mr. Luick, and the testimony of Commission engineer Wehe that such depreciation so determined amounts to $7,774,867.

(y) In said opinion (page 14, lines 15 to 29), it is stated:

"From the evidence presented, it appears quite clearly that annuity depreciation allowances made prior to the date of the rate hearing here concerned were in excess of what the Company could properly claim. Prior allowances, if excessive, were not controlling. Depreciation was a matter not capable of definite ascertainment, and the Commission had the right to use its judgment under all of the facts displayed before it, aided in weighing the evidence by its experience in dealing with this Company's property and other like utilities, and to adopt a per cent depreciation rather than the amount deducted by the Company. It is not demonstrated by any evidence that the allowance made by the Commission as for depreciation annuity for the future would not, in its amount, be equivalent to the replacement outlay at going costs."

Said statement is in error for the reason that all prior depreciation allowances were fixed by the Commission and [fol. 263] are not shown to have been in excess of the amounts reasonably required to allow for accruing depreciation of plaintiff's property. Said statement is further in error for the reason that the Commission was under the law bound to adhere to the evidence before it and now before this court, which shows that the amount which should be allowed as and for depreciation annuity is not less than $1,300,000 on a sinking fund basis, or $2,830,487 on a straight line basis. As properly stated by the court in its opinion (page 14, lines 11 to 14), if a depreciated rate base is used, the straight line method of computing depreciation annuity should be followed.

(z) In said opinion (page 14, line 30, to page 15, line 2) it is stated:

"The large amounts claimed by the Company for cost of financing, $5,921,470; promoters remuneration, $2,500,000; cost of attaching business (going concern value) $9,228,-667; added 'difficulty' costs, $580,195; we think were properly rejected as for their total amounts."

Said statement is in error for the reason that each and all of the items therein referred to, and particularly the item of going value, are under the law proper matters to be included in the valuation of plaintiff's property devoted to public service and the exclusion thereof is error.

(aa) In said opinion (page 15, lines 11 to 16) it is stated:

"Basically, the object of an appraisement for rate making purposes is to find the full value of the investment in [fol. 264] the business. The investment is represented by the value of the property used and necessary in the business—not what it would cost to promote and establish a like business starting today."

Said statement is in error for the reason that the object of an appraisement is to determine the fair value of the property used by a utility company in the public service, irrespective of its investment therein, or whether it made any investment therein, and regardless of the source of funds from which such investment was made.

(bb) In said opinion (page 15, lines 17 to 23) it is stated:

"In fixing the estimated income for the future, the Commission adjusted its figures to average temperatures. The Company complained that at least the two preceding years had been attended by unusually high temperatures and consequent diminished demand for gas and that it was improper to assume average temperatures. And yet the practice adopted was fair."

To said statement there should be added the finding, based upon the uncontradicted evidence, that the average temperature of the past ten years was substantially higher than the twenty-two year average used by the Commission, the average temperature for the past eight years was

higher than the ten year average, and that the average temperature for the past five years was higher than the eight year average, and that as shown by the testimony of Commission engineer Guillou, if rates had been fixed which exactly followed the twenty-two year average temperature theory, plaintiff would have earned less than a fair return in every year since January, 1925 (Tr. page 2013).

[fol. 265] 4. Plaintiff requests the court to make the following findings of fact in accord with the evidence before the court:

(a) That plaintiff's property devoted to public use has a going value in the amount of not less than $9,228,667; that neither said amount, nor any part thereof, was included in the valuation fixed by the Commission, and that the same should be added to the fair value of $65,500,000 found by the Commission;

(b) That the actual cost incurred by plaintiff for indirect construction costs of its physical property, i. e., for engineering and superintendence, law expense, injuries, damages and miscellaneous, errors, omissions and contingencies, and taxes and interest during construction (sometimes called "overhead costs"), and the amount of such cost that would be incurred on a reproduction of its properties, exceeds 6.35% of the cost of labor and material items, and exceeds the amount shown on the books of plaintiff during the years 1913 to 1929, inclusive; that the minimum reasonable cost of such indirect construction costs, shown by the evidence before the court, is 11.25% on an historical basis and 22.32% on a reproduction basis; that the use of such percentages would add $2,830,057 to the Commission's finding of historical cost and $8,695,825 to the Commission's finding of fair value;

(c) That the accrued and realized depreciation in the value of plaintiff's physical properties, including obso-
[fol. 266] lescence and functional deterioration, does not exceed $3,470,326, and that the maximum estimate of such depreciation, shown by testimony of record, is $7,650,000;

(d) That the Commission's finding of fair value was predicated on a reproduction cost estimate of a Commission

engineer, using spot prices as of June 15, 1930, and that said engineer did not testify as to the reasonableness of such price; that the only estimate of reproduction cost and of present fair value supported by any testimony of record, except that of the plaintiff's witnesses, was one based on four year average prices, with overheads at 22.32%, shown by Commission engineer Dufour, in the sum of $73,637,542, being $10,425,321 in excess of the value found by the Commission for the properties included therein;

(e) That the rate of return customarily enjoyed in Los Angeles and vicinity by investments in enterprises with corresponding risk and uncertainty to that of plaintiff is not less than 8% per annum, and that the true cost of money invested in plaintiff's property, with a minimum margin of safety, is 7.981%;

(f) That if the twenty-two year average temperature had been applied exactly as a basis for estimate of plaintiff's revenues, plaintiff would have earned substantially less than a fair return in each of the years 1925 to 1930, inclusive;

(g) That the net revenues that would have been earned by plaintiff in the year ended October 31, 1930, had the prescribed rates been in effect, would have been not in excess [fol. 267] of $4,037,778, a return of 6.16% upon the fair value fixed by the Commission, and that such return is the net return which could be anticipated under the prescribed rates in 1931 and following years; that such return is so low as to be confiscatory.

5. Plaintiff requests that the court make the following conclusions of law:

(a) That the rates prescribed by the order of the Railroad Commission of the State of California, complained of and set forth in the Bill of Complaint herein, fail to yield plaintiff a fair return upon the fair value of its property devoted to public service;

(b) That a permanent injunction restraining the enforcement of said rates should be granted as prayed for in the Bill of Complaint herein.

Herman Phleger, Paul Overton, Solicitors for Plaintiff.

[fol. 268] IN UNITED STATES DISTRICT COURT

[Title omitted]

MOTION TO CONTINUE INJUNCTION PENDING APPEAL

Plaintiff above-named hereby makes application and moves:

1. For an order preserving the status quo pending appeal, continuing in effect the interlocutory injunction heretofore issued in the above-entitled matter on the 8th day of January, 1931 and/or staying and suspending, pending the appeal of said plaintiff from the final decree of the Honorable District Court of the United States for the Southern District of California made and entered, or to be made and entered, pursuant to opinions of said court filed in the office of the Clerk thereof on the 8th day of April, 1932, against said plaintiff and in favor of said defendants, and enjoining and restraining, pending the appeal of plaintiff to the Supreme Court of the United States from said decree of said District Court and until the final judgment herein, the de-[fol. 269] fendants Railroad Commission of the State of California and C. L. Seavey, Leon O. Whitsell, Thos. S. Louttit, W. J. Carr and Ezra W. Decoto, as members of and constituting said Railroad Commission of the State of California, their officers, attorneys, agents, servants and employees, and City of Los Angeles, intervener herein, its officers, attorneys, agents, servants and employees, and any and every other person acting or claiming or assuming to act under or by virtue of the authority of said Commission or of said City, and any and all other persons, associations or corporations, municipal or otherwise, which now or shall hereafter seek or attempt to enforce Decision and Order No. 23102 of said Commission issued on November 24, 1930, and the rates therein prescribed, or from enforcing, or attempting to enforce, said Decision and Order No. 23102, or the rates therein prescribed, and from advising, instituting, prosecuting or aiding any action or proceeding whatever of any kind or character under the laws of the State of California, or otherwise to recover from or impose upon or enforce against plaintiff, or any of its officers, agents, employees or any of them, any fine, penalty, damage or de-

mand for failure or refusal to obey, observe or comply with said Decision and Order No. 23102, or for failure or refusal to charge or collect the rates prescribed in said Decision and Order, and from interfering with, or attempting to interfere with, and from advising, instituting, prosecuting or aiding in any act, action, suit or proceeding to interfere with, prevent or restrain the plaintiff, or any of its officers, agents or employees, or any of them, from collecting or [fol. 270] charging the rates now being charged by plaintiff for the distribution of gas, upon such terms as to the filing of bond or other security as to the court may seem meet and just.

2. For such other and further orders and relief as the court shall deem just and proper in the premises.

Said motion is made and based upon all the pleadings, evidence and records before said court and upon the affidavit of W. E. Houghton filed herewith.

Dated Los Angeles, California, 28th April, 1932.

Herman Phleger, Paul Overton, Solicitors for Plaintiff.

[fol. 271] IN UNITED STATES DISTRICT COURT

[Title omitted]

AFFIDAVIT OF W. E. HOUGHTON IN SUPPORT OF MOTION FOR A STAY PENDING APPEAL

STATE OF CALIFORNIA,
County of Los Angeles, ss:

W. E. Houghton, being first duly sworn, deposes and says:

That he is Vice-President and Treasurer of Los Angeles Gas and Electric Corporation, a corporation, the plaintiff in the above-entitled action, and that for more than twenty-five years he has been in charge of accounting matters for said plaintiff and its predecessor;

That he is familiar with the order and decision of the Railroad Commission of the State of California, No. 23102, set forth in the Bill of Complaint herein, by which a reduction is required to be made by plaintiff in its charges for gas

sold for domestic and commercial purposes, effective January 1, 1931, which reduction was stated by the Commission to have been "carefully calculated and intended to effect a reduction in the Company's gross domestic and commercial revenue of 9 per cent";

That pursuant to the provisions of the interlocutory injunction issued by the above-entitled court on the 8th day — [fol. 272] January, 1931, and the bond filed in connection with the issuance of said injunction, the rates which plaintiff continued to collect and is now collecting for domestic and commercial gas service are those prescribed by said Commission by its decision and Order No. 20448, dated November 14, 1928, which became effective December 1, 1928, and not the lower rates prescribed by the order of the Commission which is under attack;

Affiant has caused all bills for gas sold by plaintiff for domestic and commercial purposes to be stamped in the form provided in said bond, showing that the charges collected by plaintiff pursuant to its rates on file with the Railroad Commission of the State of California and as prescribed by said Railroad Commission in 1928, have been collected pursant to the provisions of said injunction and that in the event said injunction be dissolved, or if the final decision in said action be that the enforcement of the rates prescribed by the order of the Railroad Commission set forth in the Bill of Complaint herein should not be restrained and enjoined, plaintiff will refund the difference between the rates collected and those which would be applicable under said order;

That a full, true and correct record of all sums so paid by plaintiff's consumers has been kept by plaintiff, and in connection therewith an amount equal to 9% of the sums so paid to plaintiff, representing the difference between the amounts so collected and the amounts which would have been due under the rates prescribed in said order of the Railroad Commission of the State of California, estimated on the basis therein set forth, has been set up by plaintiff in a separate reserve account entitled: "Consumer's charge in controversy"; that such records are so kept that the plaintiff can within a reasonable time following the entry of a final decree in this action (if adverse to plaintiff) refund to [fol. 273] each and every consumer entitled thereto the difference between the sums so paid to the plaintiff and the sums payable under the rates prescribed by said order of the Railroad Commission of the State of California;

That during the calendar year 1931 the following amounts have been collected by plaintiff for gas sold by it, and the difference between the rates so collected and those which would have been effective under said order of the Railroad Commission of the State of California, are as follows:

Character of service	Amount collected	Amount in controversy
Domestic and commercial	$15,031,191.63	$1,424,557.69
Industrial	497,085.71	.....
Miscellaneous	106,975.11	.....
Total	$15,635,252.45	$1,424,557.69

That the said amount of $1,424,557.69, shown under the heading "Amount in Controversy," represents the difference between the charges collected and those which would have accrued under the rates prescribed by said order under attack during the calendar year 1931; that the number of domestic and commercial consumers served by plaintiff was on January 1, 1931, 360,253 consumers, and on December 31, 1931, 359,502 consumers;

That the average amount of refund to which each such consumer would be entitled, in the event it be determined on appeal that plaintiff is not entitled to the injunction sought by the Bill of Complaint herein, is for the calendar year 1931 $4.00, and the monthly difference per average consumer between the rates collected and those which would be applicable under said order for the year 1931 was and is $0.33⅓;

That plaintiff's actual revenues from the sale of gas and the amounts in controversy for the period January 1, 1932 to March 31, 1932, inclusive, are as follows:

[fol. 274]

Character of service	Amount collected	Amount in controversy
Domestic and Commercial	$5,823,305.35	$524,097.48
Industrial	114,595.04	.....
Miscellaneous	16,932.15	.....
Total	$5,954,832.54	$524,097.48

That the said amount of $524,097.48, shown under the heading "Amount in Controversy," represents the difference between the charges collected and those which would have accrued under the rates prescribed by said order from the period January 1, 1932 to March 31, 1932; that the number of domestic and commercial consumers served by plaintiff

was on January 1, 1932, 359,502 consumers, and on March 31, 1932, 355,625 consumers;

That the average amount of refund to which each such consumer would be entitled, in the event it be determined on appeal that plaintiff is not entitled to the injunction sought by the Bill of Complaint herein, is for the period January 1, 1932 to March 31, 1932, the sum of $1.46, and the average monthly difference per consumer between the rates collected and those which would be applicable under said order for said period January 1, 1932 to March 31, 1932 was and is the sum of $0.48⅔; that said period January 1 to March 31 is the period of heaviest consumption of gas, 65% of plaintiff's revenues being derived in the months from November to April, inclusive;

That plaintiff is advised that an appeal to the United States Supreme Court, from the decree of this Court, would be decided in approximately twelve months from March 31, 1932; that in such event, assuming the gross collections from consumers under the existing rates would aggregate in said twelve-month period, the same approximate amount as was collected from consumers during the twelve months of the calendar year 1931, there would be collected an addi-[fol. 275] tional sum representing rates in controversy, of $1,424,557.69, which, based on an average of 360,000 consumers, would represent an average of less than $4.00 per consumer as the additional average refund per consumer for said twelve-month period if said order of the Railroad Commission were finally sustained;

That in the event the status quo be not preserved by an order of this court continuing in effect the temporary injunction heretofore issued pending appeal by plaintiff from the final decree of this court dismissing plaintiff's Bill of Complaint and denying a permanent injunction restraining the enforcement of said order of the Railroad Commission of the State of California, plaintiff would be obliged immediately to refund to each of the more than 360,000 consumers now or heretofore served by it the amounts representing the difference between the rates collected and the rates which would be effective under said order of the Railroad Commission of the State of California, amounting in the aggregate to the sum of $1,948,655.17 for the period January 1, 1931 to March 31, 1932, and would thereafter

be enabled to collect only the sums so specified by said order, which sums for the period up to March 31, 1933 would be not less than the sum of $1,424,557.69 less than the amount to which plaintiff would be entitled under its existing rates as prescribed by the Railroad Commission of the State of California in the year 1928; that in the event such sums should be so refunded, plaintiff will be prevented from collecting any rates in excess of those prescribed by said order of the Railroad Commission, and all of said sums, to wit, the sum of $1,948,655.17, which has accrued from January 1, 1931 to March 31, 1932, and the sum of $1,424,557.69, which would be the difference in such charges for the period March 31, 1932 to March 31, 1933, or an aggregate of $3,373,212.86, together with such further sums as would accrue after March 31, 1933 up to the date of the [fol. 276] final decision in this suit, if the final decision is not rendered prior thereto, would be irrevocably lost to plaintiff, whereas the average amount per consumer paid under existing rates in excess of the amounts payable under the rates prescribed in said order amounts to but $5.46 from January 1, 1931 to March 31, 1932, and would amount to $4.00 for the period of March 31, 1932 to March 31, 1933, an aggregate up to March 31, 1933 of but $9.46 per consumer;

That the repayment of such sums to said consumers, in the event the final judgment in this matter upon appeal to the Supreme Court of the United States be adverse to plaintiff, is amply secured and plaintiff is willing to give such bond or further assurance of such repayment as to the court may seem just and reasonable;

That great expense and inconvenience would be incurred in making refund pursuant to said proposed form of order, such expense amounting to not less than $100,000, which expense would be no greater in making such refund if required by virtue of the final judgment of the Supreme Court of the United States and of this court pursuant to plaintiff's appeal to said Supreme Court of the United States; that the number of consumers now or heretofore served by plaintiff in domestic and commercial gas service approximates 360,000, and the making of such refund would require examination of the record of each month's collections for sixteen months and the making of more

than 6,000,000 computations in order to ascertain the aggregate amount to which each such customer would be entitled; using all employees who could possibly be put to work upon said computations, the preparation of 360,000 letters of advice to such consumers in respect of refund and checks thereto would occupy substantially more than ninety days permitted by such form of decree; that it is not feasible or practicable to specify an arbitrary period [fol. 277] within which refund should be made;

That as shown by plaintiff's records, the amount to which each average consumer would be entitled if refund of the difference between the amounts collected and the amounts which would have accrued under the order of the Commission be directed, is $5.46 for the period from January 1, 1931, to March 31, 1932; that the payment for gas upon the basis of rates prescribed by the Railroad Commission effective December 1, 1928 during the period commencing January 1, 1931, has not subjected any consumer to undue or any hardship, or inconvenience, nor will the continuance of charges at the rates prescribed by the Commission by its order effective December 1, 1928, during the pendency of this suit and up to its final determination, subject any of said consumers to any undue or any hardship or inconvenience; that no customer or consumer has made objection to the company to the payment of the said rates now being collected, or urged that to pay the same will cause any hardship or inconvenience. On the contrary, if a stay be not granted during the pendency of the appeal, and it be ultimately held that said order of the Commission is void, as this plaintiff verily believes and is advised will be the case, it will be subjected to irreparable loss and damage, in that it will be permanently deprived of sums aggregating at least $3,373,212.86, which are and would be the property of plaintiff, being the sum of $1,948,655.17, which it has collected during the period January 1, 1931 to March 31, 1932; the sum of $1,424,557.69, estimated to accrue during the period March 31, 1932 to March 31, 1933, and further sums as may accrue thereafter pending final determination in this suit, if a final decision is not rendered on or before March 31, 1933.

W. E. Houghton.

Subscribed and sworn to before me this 27th day of April, 1932. R. Macdole, Notary Public in and for the County of Los Angeles, State of California. (Seal.)

[fol. 278] IN UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF CALIFORNIA, CENTRAL DIVISION

In Equity. No. S-105-J

LOS ANGELES GAS AND ELECTRIC CORPORATION, a Corporation, Plaintiff,

vs.

RAILROAD COMMISSION OF THE STATE OF CALIFORNIA et al., Defendants

FINAL DECREE—May 3, 1932

This cause came on to be heard on January 2, 1931, before the three judge statutory court, convened as required under 28 U. S. C. A. 380, on motion for interlocutory injunction. The Court so convened was comprised of Honorable Curtis D. Wilbur, Circuit Judge, Honorable Wm. P. James and Frank C. Jacobs, District Judges. The motion was duly argued upon the pleadings and upon various affidavits filed by the respective parties, both in support of and in opposition to the motion for interlocutory injunction. Thereupon, upon consideration of the motion, an interlocutory injunction was allowed. At said hearing it was stipulated by the parties that the matter should be submitted to the court for final determination upon the pleadings, the various affidavits on file with the court, and upon the record made before the Railroad Commission of the State of California upon which the Commission had issued its order of November 24, 1929, fixing the gas rates of plaintiff, which record was offered and received in evidence, to the same purpose and effect as if all matters appearing therein had been testified to in open court, and upon briefs to be filed by the parties. Thereafter briefs were duly [fol. 279] filed and further argument waived by the parties. After considering the record and the issues of fact and law presented, the court, on April 8, 1932, rendered its opinion

holding that plaintiff is not entitled to the relief demanded and that its prayer for an injunction should be denied.

The court now finds that the values for plaintiff's property as fixed and determined by the defendant Railroad Commission are the reasonable values thereof; that the rates fixed are such as to render a reasonable return on such values and that said rates are therefore not confiscatory. And the court adopts, as representing its further findings, the opinion filed herein on April 8, 1932, as concurred in by the two district judges who participated in the hearing and decision hereof.

Now, therefore, in accordance with the findings of fact and conclusions of law, it is hereby ordered, adjudged, and decreed as follows, viz:

1. That the complaint herein is dismissed.

2. That plaintiff shall within ninety (90) days from date refund to its individual gas consumers, and each of them, sums collected from such consumers since January 1, 1931, in excess of the rates fixed and prescribed by the Railroad Commission in its order of November 24, 1930, said sums to be refunded with interest computed at the rate of six (6) per cent per annum.

Provided, however, that enforcement of this provision of the decree is stayed for a period of thirty (30) days from date hereof to allow plaintiff to perfect an appeal; and if such appeal is perfected within said time then proceedings under this decree shall be further stayed upon the plaintiff furnishing a bond containing such terms and for such an amount as the court may hereafter approve.

Dated this 3 day of May, 1932.

Wm. P. James, U. S. District Judge. F. C. Jacobs, U. S. District Judge.

I concur in the decree and for findings of fact upon the issues refer to my concurring opinion as the findings of fact upon which I base this decree.

Curtis D. Wilbur, U. S. Circuit Judge.

[fol. 280] IN UNITED STATES DISTRICT COURT

[Title omitted]

ORDER CONTINUING INJUNCTION PENDING APPEAL—Filed May 18, 1932

Plaintiff having advised the Court of its intention to appeal to the Supreme Court of the United States from the final decree herein, and having filed a motion to preserve the status quo and to continue in effect the interlocutory injunction heretofore issued herein pending such appeal; and it appearing to the Court that it would be equitable that such motion be granted; and plaintiff having filed a bond in the sum of Two Hundred Thousand Dollars ($200,000.00) conditioned to pay all costs or damages that may accrue to defendants and others, if plaintiff be not successful on such appeal, and to refund to consumers of gas served by plaintiff the difference between the amount collected by plaintiff for domestic and commercial gas service and the amounts which would have been payable at the rates prescribed by the Order of the Railroad Commission of the State of California set forth and complained of in the Bill of Complaint herein, which bond [fol. 281] is hereby approved.

It is ordered, adjudged, and decreed that the enforcement of the order of the Railroad Commission of the State of California, dated November 24, 1930, set forth and complained of in the Bill of Complaint herein, be stayed with the same force and effect and upon the terms and conditions set forth in the interlocutory injunction issued herein on the 8th day of January, 1931, and that said interlocutory injunction be, and the same is hereby, continued in full force and effect until the final determination of this action, pursuant to plaintiff's appeal to the Supreme Court of the United States; provided, however, that the stay herein ordered shall cease unless plaintiff within thirty (30) days from the date of filing of this order shall perfect its appeal from the final decree herein.

Dated May 10, 1932.

Wm. P. James, U. S. District Judge. F. C. Jacobs, U. S. District Judge. Curtis D. Wilbur, U. S. Circuit Judge.

[File endorsement omitted.]

[fol. 282] IN UNITED STATES DISTRICT COURT

[Title omitted]

ASSIGNMENT OF ERRORS

Comes now the plaintiff above-named and presents its Assignment of Errors, and says that in the record and proceedings in the above-entitled cause and the decree made and entered against it herein on the 18th day of May, 1932, there is error in the particulars hereinafter set forth, that is to say:

That said Court erred in making said decree and dismissing the Bill of Complaint herein and in denying plaintiff a permanent injunction restraining the enforcement of the Order of the Railroad Commission of the State of California dated November 16, 1930 (hereinafter referred to, respectively, as the Order and the Commission), and in dissolving the temporary injunction heretofore issued by said Court restraining the enforcement of said Order in the following particulars, viz:

[fol. 283] I

The Court erred in making said decree.

II

The Court erred in not making a decree permanently enjoining the enforcement of the Order of the Commission and the rates therein prescribed.

III

The Court erred in holding that the Order of the Commission and the rates thereby fixed and required to be established and maintained by plaintiff did not, and/or will not, deprive plaintiff of its property and the use thereof without due process of law, and erred in failing to hold that said Order and the rates therein prescribed will deprive plaintiff of its property and the use thereof without due process of law.

IV

The Court erred in holding that the Order of the Commission and the rates thereby fixed and required to be

established and maintained by plaintiff did not, and/or will not, deprive plaintiff of the equal protection of the laws, and erred in failing to hold that said Order and the rates therein prescribed will deprive plaintiff of the equal protection of the laws.

V

The Court erred in holding that the Order of the Commission and the rates thereby fixed and required to be established and maintained by plaintiff did not, and/or will not, take plaintiff's property and the use thereof for public use without just compensation, and erred in failing to hold that said Order and the rates therein prescribed [fol. 284] will take plaintiff's property and the use thereof for public use without just compensation.

VI

The Court erred in failing to hold that the rates fixed by the Order of the Commission are confiscatory and would fail to yield plaintiff substantial compensation over and above the cost of the service, in violation of plaintiff's rights under the Fourteenth Amendment to the Constitution of the United States.

VII

The Court erred in failing to find that the rates prescribed by said Order are unjust and unreasonable, and less than just and reasonable and will not yield plaintiff a fair return upon the fair value of its property used and useful in the public service.

VIII

The Court erred in failing to give an independent consideration of the law and the evidence introduced in this suit and in considering the suit solely as a proceeding to determine whether there was any evidence before the Commission in support of its finding and order.

IX

The Court erred in that it approved, followed and used as the basis for its decree in this suit, the same erroneous theory of rate making used by the Commission in making

its Order, to wit, it considered that rates are lawful which would "yield upon the historical or actual cost of the property, taking land at current values and depreciation calculated on a sinking fund basis, a return somewhat in excess of the cost of money invested in the property," and [fol. 285] further erred in that it gave no consideration or weight to the present value of said property, or to the cost to reproduce the same, or to the actual cost of said property, or to the actual cost of the money invested in said property.

X

The Court erred in failing to find the fair or any value of plaintiff's property devoted to public use.

XI

The Court erred in finding that the fair value of plaintiff's property devoted to public use is not in excess of $65,000,000.

XII

The Court erred in failing to find that the value of plaintiff's property devoted to public use is not less than $95,767,351.

XIII

The Court erred in that in finding the value of plaintiff's property, it rejected all evidence of the cost to reproduce said property, and all evidence of the actual cost thereof, and all evidence of the going value thereof, and used as the sole measure of the value of said property the appraised value thereof as of 1915, plus the book cost of additions and betterments since that date, notwithstanding the uncontradicted evidence showed that the cost to reproduce said property was many millions in excess thereof, notwithstanding that the actual cost of said property was at least $3,000,000 in excess of said book figures, and notwithstanding the uncontradicted evidence showed that the going value of said property was at least the sum of $9,228,667.

[fol. 286] XIV

The Court erred in rejecting and failing to consider evidence of the actual cost of plaintiff's properties devoted to

public use and in predicating its finding as to such cost on erroneous entries appearing in plaintiff's books of account.

XV

The Court erred in failing to find that the cost of plaintiff's property was the sum shown by the evidence to have been expended in the construction and acquisition thereof, and in finding such cost to be a sum substantially less than the actual cost, because of an alleged estoppel based on the erroneous manner in which plaintiff's books had been kept.

XVI

The Court erred in failing to give due or any weight or consideration to the reproduction cost of plaintiff's property.

XVII

The Court erred in eliminating from the consideration of such reproduction cost the amount which reasonably would be required to be expended for indirect construction costs, i. e., for engineering and superintendence, law expense, injuries, damages and miscellaneous, errors, omissions and contingencies, and taxes and interest during construction, and in measuring the amount of such indirect construction costs by the percentage of direct labor and material items erroneously charged in plaintiff's books of account during the years 1913 to 1929, inclusive, which charges were shown by the evidence to be substantially less than the [fol. 287] amount actually expended for such indirect construction costs and the amounts which would be incurred for such indirect construction costs in reproduction of plaintiff's property devoted to public use.

XVIII

The Court erred in sustaining and upholding the valuation fixed by the Commission predicated upon spot prices as of June 15, 1930, and by employing said prices in its own finding of valuation, and in failing to find that the proper measure of reproduction cost of plaintiff's properties was the average prices prevailing over a period corresponding to the period required for the construction of plaintiff's

said properties, and in failing to give due or any weight or consideration to said prices in arriving at its valuation.

XIX

The Court erred in sustaining and approving the valuation made by the Commission based solely upon changes in price level of direct labor and material items, without due or any consideration of the amount of indirect construction costs actually incurred in the construction of said properties or that would be incurred in the reproduction thereof, and which included for such indirect construction costs only a percentage of direct labor and material costs shown in plaintiff's books of account in the years 1913 to 1929, inclusive, which amount so shown in plaintiff's books was less than the true amount of such indirect construction costs on either an historical or a reproduction basis.

XX

The Court erred in testing the adequacy of the Commis- [fol. 288] sion's valuation of plaintiff's properties and in finding the fair value of plaintiff's property, to the extent the same is at all found by said decree, by consideration of the par value of plaintiff's outstanding securities and ignoring the fair and reasonable value of plaintiff's properties devoted to public use and the actual investment of plaintiff in such properties.

XXI

The Court erred in predicating its conclusions as to the fair value of plaintiff's properties upon a comparison of depreciated fair value as found by the Court with the undepreciated value as found by the Commission.

XXII

The Court erred in holding that the test of fair value is the value of the investment in the business, and in failing to find that the test is the value of the property and business devoted to public use at the time of the inquiry.

XXIII

The Court erred in holding that the plaintiff is not entitled to question an erroneous basis of valuation fixed by the Com-

mission in earlier proceedings and in holding that plaintiff had in the past accepted such basis of valuation, and was therefore concluded thereby in this proceeding from claiming a different basis.

XXIV

The Court erred in failing to find that the actual expenditure on the construction of plaintiff's property for indirect construction costs is a minimum of 11.25% of the amount of direct labor and material costs, including land values, and [fol. 289] in failing to find that under the evidence such indirect construction costs amount to 14.48% of the direct labor and material costs, including land values.

XXV

The Court erred in failing to find that the expenditure for indirect construction costs required in the reproduction of plaintiff's property, is a minimum of 22.32% of the amount of direct labor and material costs, including land values, and in failing to find that under the evidence such expenditure for indirect construction costs to be included in the reproduction costs, amount to 24.27% of the direct labor and material costs, including land values.

XXVI

The Court erred in finding that plaintiff has had during preceding years the benefit of a much reduced net income figure due to its erroneous charges for indirect construction costs, by the use of which in turn, its rate charges have been increased, the fact being as shown by the evidence, plaintiff has never earned a fair return upon the face value of its property in any year, and in the period since 1913 has earned less than the return allowed by the Commission on the actual cost of its property after all incorrect charges have been reversed.

XXVII

The Court erred in holding that the value of plaintiff's property should be fixed not upon the basis of the true amount of indirect construction costs, but upon the basis of insufficient and erroneous book entries as to such cost, because plaintiff had, by virtue of such erroneous book en- [fol. 290] tries, been compensated therefor in operating ex-

penses from time to time, and in failing to hold that in fact plaintiff had not been compensated therefor in operating expenses and had not received a fair return upon the value of its property during all the time that such erroneous book entries were made, and in failing to hold that plaintiff had not in fact received even the return prescribed by the Commission from time to time upon the Commission's own finding of historical cost of plaintiff's property, which finding of the Commission was in fact below the actual historical cost of plaintiff's property and at all times greatly less than the fair value thereof.

XXVIII

The Court erred in failing to find that plaintiff is entitled to a fair return on its property irrespective of the amount of investment therein or of the source of the funds with which such property was constructed or acquired.

XXIX

The Court erred in failing to find the amount of the going value of plaintiff's property and business devoted to public use, and in failing to allow for going value in the value of plaintiff's property devoted to public use.

XXX

The Court erred in failing to find that the going value of plaintiff's property is not less than $9,228,667, and in failing to include said sum in its finding of value.

[fol. 291]

XXXI

The Court erred in failing to find that not less than $9,228,667 should be added to the value of plaintiff's property fixed by the Commission, because no allowance for the going value of plaintiff's property was made by the Commission in its finding of value.

XXXII

The Court erred in holding that the failure to include the going value of plaintiff's property, which value exists in a substantial amount and which was not included in the Commission's valuation, was compensated by other errors of the Commission, in that under the evidence it does not

appear, and it is not true, that any elements of plaintiff's property devoted to public use were valued at an excessive amount by the Commission, or any amount or elements of such value included by the Commission which do not in fact exceed at least the amount included therefor in the valuation fixed by the Commission.

XXXIII

The Court erred in holding that the allowance in operating expenses for the costs of advertising and new business expense is a sufficient recognition of the going value of plaintiff's property devoted to public use.

XXXIV

The Court erred in holding that the allowance of a return somewhat in excess of the cost of money borrowed by plaintiff and/or the rate of dividend to plaintiff's preferred stockholders constituted in part a recognition of a sufficient allowance for the going value of plaintiff's property devoted to public use.

[fol. 292]

XXXV

The Court erred in finding that the accrued depreciation of plaintiff's property devoted to public use exceeds the sum of $3,470,326.

XXXVI

The Court erred in holding that the amount set up in plaintiff's depreciation reserve is a test or measure of the amount of accrued depreciation of plaintiff's property devoted to public use.

XXXVII

The Court erred in holding that the amount of accrued depreciation of plaintiff's property devoted to public use exceeds the sum of $7,650,000.

XXXVIII

The Court erred in holding that the amount of accrued depreciation of plaintiff's property devoted to public use may be measured by theoretical computations on a sinking

fund or straight line basis, and in failing to hold that the same may be measured solely by examination and appraisal of the amount of such depreciation.

XXXIX

The Court erred in failing to find that all of plaintiff's gas manufacturing plant is property used and useful in the public service.

XL

The Court erred in basing its opinion upon speculation and conjecture as to the possible obsolescence of some parts of the gas manufacturing plant of plaintiff.

XLI

The Court erred in failing to find that to insure ade- [fol. 293] quate and satisfactory service it is necessary that plaintiff maintain a gas manufacturing plant.

XLII

The Court erred in failing to find that the gas manufacturing plant of plaintiff has at all times been maintained as used and useful in the service of the public and that the same has during the period of the peak demand in each year been kept in readiness for instant use, if necessary, and has from time to time been used for the manufacture of gas to supplement plaintiff's supply of natural gas.

XLIII

The Court erred in holding that there is no evidence to contradict the Commission's contention that the supply of natural gas is ample and abundant for many years, and in failing to hold that the supply of natural gas available to plaintiff in the territory adjacent to its field of operation is rapidly diminishing and that plaintiff is under the necessity of obtaining natural gas supply from increasingly more distant points, subject to many and great hazards of interruption due to the character of the territory traversed by the pipe-lines in which the same is transported.

XLIV

The Court erred in failing to find the reasonable rate of return to which plaintiff is entitled under the Fourteenth Amendment to the Constitution of the United States.

XLV

The Court erred in finding that the reasonable rate of re-
[fol. 294] turn to which plaintiff is entitled is not in excess of 7% per annum.

XLVI

The Court erred in failing to find that the reasonable rate of return to which plaintiff is entitled is not less than 8% per annum.

XLVII

The Court erred in holding that the reasonable rate of return may be measured by the cost of money invested in plaintiff's securities, and in failing to hold that such reasonable rate of return should be measured by the rate of return enjoyed in the same general territory on investments attended by corresponding risk and uncertainty to that of plaintiff.

XLVIII

The Court erred in failing to give due or any consideration to the uncontradicted testimony that the rate of return enjoyed in the same general territory on moneys invested in enterprises attended by like risks and uncertainties to that of plaintiff, is not less than 8% per annum.

XLIX

The Court erred in holding that the reasonable rate of return to which plaintiff is entitled may be measured by the return allowed to other public utilities regulated by the Commission on the same erroneous theories as were applied by the Commission in the Order here involved.

L

The Court erred in finding that the cost of money invested in plaintiff's securities was not in excess of 6.17% for bond
[fol. 295] and preferred stock money, and in failing to find

that the actual cost of money invested in plaintiff's property is not less than 6.40% for bond money, 6.76% for preferred stock money, and 8.50% for common stock money, and that the average cost of money with a minimum surplus required to support such cost is not less than 7.981% per annum.

LI

The Court erred in holding that there is but little hazard in plaintiff's business.

LII

The Court erred in holding that plaintiff is subject to no competition in its gas business, and in failing to find that plaintiff is subject to severe competition from electricity, oil and other fuels.

LIII

The Court erred in estimating the probable revenues under the rates prescribed by the Order of the Commission on the basis of average temperatures reported by the United States Weather Bureau in Los Angeles for the years 1908 to 1930, inclusive.

LIV

The Court erred in disregarding the testimony that the average temperatures prevailing in Los Angeles for the past ten years are materially higher than the twenty-two year average used, that the average temperatures for the past eight years are higher than the ten year average, that the average temperatures for the past five years are higher than the eight year average, and that the consumption of gas and plaintiff's gross revenues are materially reduced [fol. 296] during periods of higher average temperatures.

LV

The Court erred in failing to find that had the twenty-two year average temperature been used as the basis for the prescription of plaintiff's rates, and had the same worked out exactly according to the theory thereof, plaintiff would have earned less than a fair return in each of the years 1905 to 1930, inclusive.

LVI

The Court erred in failing to find that plaintiff's revenues would, under the rates prescribed, be materially less than the amounts estimated by the Commission because of the effect of economic depression and the increasing tendency of the community to live in apartment houses.

LVII

The Court erred in holding that the average temperature for the year 1931 was lower than the average preceding five years, when in fact the average temperature of said year 1931 was the highest of any year of the years 1908 to 1931, inclusive.

LVIII

The Court erred in basing its conclusions upon speculations as to possible greater revenues than estimated by the Commission because in certain years the revenues of plaintiff were in fact greater than those estimated by the Commission in previous rate cases, and in failing to find that in fact throughout the greater part of plaintiff's experience under regulation by the Commission, its revenues were in fact substantially less than those estimated and intended to [fol. 297] be allowed by the Commission, and that the accrued deficiency below the return allowed by the Commission in various rate proceedings during the years 1917 to 1930, inclusive, was in excess of $1,500,000 based on the Commission's inadequate finding of historical cost, and that such deficiency amounts to more than $8,000,000 upon the true historical cost of plaintiff's property after adjustment for erroneous book entries in respect of indirect construction costs.

LIX

The Court erred in finding that the sum of $1,072,000 per annum is an adequate allowance for depreciation of plaintiff's property devoted to public use.

LX

The Court erred in failing to find that the sum of $2,344,000 per annum should be allowed annually for depreciation on plaintiff's property devoted to public use.

LXI

The Court erred in holding that depreciation annuity may be computed on a sinking fund basis and in failing to find that the same should be allowed on a straight line basis.

LXII

The Court erred in finding that a reduction in the sinking fund annuity allowed plaintiff by the Commission was justified by excess accruals in the past while at the same time holding or implying that the accrued depreciation of plaintiff's property is measured by its depreciation reserve and/or that all or some part of the value of plaintiff's gas manufacturing plant should be eliminated from the fair [fol. 298] value of plaintiff's property because of obsolescence.

LXIII

The Court erred in failing to find that the operating expenses reasonably incurred and to be incurred by plaintiff in the operation of its gas system is not less than the amount actually so incurred in the twelve months period ended October 31, 1930, to wit, the sum of $10,547,482.

LXIV

The Court erred in failing to find that in determining the fair value of plaintiff's property devoted to public service there should be added to the cost of reproduction and fair value fixed by the Commission the sum of $2,500,000 as remuneration to the organizers of the enterprise.

LXV

The Court erred in failing to find that in determining the fair value of plaintiff's property devoted to public service there should be added to the cost of reproduction and fair value fixed by the Commission the sum of $5,921,470 for the cost of financing the enterprise.

LXVI

The Court erred in holding the allowance of $645,000 for working cash capital was and is adequate, and in failing to find that the allowance for working cash capital should be not less than the sum of $2,333,850.

LXVII

The Court erred in holding the allowance of $450,000 for materials and supplies was and is adequate, and in failing [fol. 299] to find that the allowance for materials and supplies should be not less than the sum of $612,735.

LXVIII

The Court erred in holding that to test rates for the year 1931 but one-half of the net amount of additions and betterments made during the year 1930 should be used and that the cost and value of work in progress should be eliminated, and holding that $767,103 was an adequate allowance for such items of property and value, and in failing to hold that no less than $1,821,758 should be included for additions and betterments and work in progress over and above the amount included in the inventory of plaintiff's property.

LXIX

The Court erred in failing to find the historical cost of plaintiff's property devoted to public use and in predicating its finding of such historical cost on evidence consisting of an estimate of such cost made by the Commission in 1917 as to items of property constructed prior to June 30, 1915, plus the amount of such cost as recorded on plaintiff's books subsequent to June 30, 1915, although such books were shown to be erroneous in respect of substantial items of value and showed less than the true cost of plaintiff's property devoted to the public use.

LXX

The Court erred in finding that the fair value of the lands used by plaintiff for public service is not more than $3,500,888, and in failing to find that the fair value of such lands is not less than the sum of $3,893,370.

[fol. 300] Wherefore the plaintiff above-named prays that the said decree entered herein on the 18th day of May, 1932, be reversed, with directions that a permanent injunction restraining the enforcement of the Order of the Commission, dated November 24, 1930, be made and entered

as prayed in plaintiff's complaint herein, and for such other and further relief as may be appropriate.

Herman Phleger, Paul Overton, Solicitors for Plaintiff. Brobeck, Phleger & Harrison, of Counsel.

[fol. 301] IN UNITED STATES DISTRICT COURT

[Title omitted]

PETITION FOR APPEAL

The above-named plaintiff, being aggrieved by the final decree of the above-entitled Court heretofore made and entered on the 18th day of May, 1932, does hereby appeal from said decree to the Supreme Court of the United States of America, for the reasons specified in the assignment of errors filed herewith; and it prays that its appeal may be allowed, and that citation be issued as provided by law, and that a transcript of the records, proceedings and documents upon which said decree was based, duly authenticated, be transmitted to the Supreme Court of the United States under the rules of said Court in such cases made and provided.

Plaintiff further prays that proper order be made relating to the security to be required of it.

Dated June 2, 1932.

Herman Phleger, Paul Overton, Solicitors for Plaintiff.

[fol. 302] IN UNITED STATES DISTRICT COURT

[Title omitted]

ORDER ALLOWING APPEAL

The plaintiff in the above-entitled suit, having prayed for the allowance of an appeal in the above-entitled cause to the Supreme Court of the United States from the decree made and entered in the above-entitled suit by the above-named Court on the 18th day of May, 1932, and from each and every part thereof, and having presented and

filed its Petition for Appeal, Assignment of Errors and Prayer for Reversal pursuant to the statutes and rules of said Court in such cases made and provided;

It is hereby ordered that an appeal be and the same is hereby allowed to the Supreme Court of the United States in this case as provided by law, and that a citation be issued as provided by law, and that a transcript of the records, proceedings and papers upon which said decree was based, duly authenticated, be prepared and certified by the Clerk of this Court, and that the same be transmitted to the Supreme Court of the United States under the rules of said [fol. 303] Court in such cases made and provided;

And it is further ordered that the bond in the penal sum of Two Hundred Thousand Dollars ($200,000) heretofore approved by all the judges of this specially constituted Court and filed herein on the 18th day of May, 1932, be and the same is hereby fixed and approved as security for costs on said appeal.

Dated June 2, 1932.

Wm. P. James, United States District Judge. F. C. Jacobs, United States District Judge. Curtis D. Wilbur, United States Circuit Judge.

[fol. 304] IN UNITED STATES DISTRICT COURT

Statement of Evidence

On January 2, 1931, the matter came on for hearing before the court. Affidavits on behalf of plaintiff in support of its motion for interlocutory injunction were offered and received in evidence and affidavits on behalf of defendants and intervener in opposition thereto were likewise offered and received in evidence. Reply affidavits on behalf of plaintiff were also offered and received in evidence. Thereupon it was stipulated that the matter be submitted to the court for decision, both as to the motion for interlocutory injunction and as to final hearing upon the pleadings, the affidavits on file, including the record made before the Railroad Commission of the State of California filed in this court as a part of the affidavit of H. G. Mathewson, Secretary of said Commission and upon briefs to be filed by the

respective parties. It was further stipulated that all of said record and evidence before the Railroad Commission should be deemed and considered as if all matters appearing therein had been testified to in open court. A temporary injunction restraining enforcement of the Order of the Commission, pending final decision herein, was issued January 8th, 1931.

The evidence, condensed and reduced to narrative form, is as follows:

Said proceeding before the Railroad Commission was initiated by an order, dated August 29, 1929, which is as follows:

[fol. 305] BEFORE THE RAILROAD COMMISSION OF THE STATE OF CALIFORNIA

Case No. 2747

In the Matter of the Investigation, Upon the Commission's Own Motion, Into the Rates, Charges, Classifications, Rules, Regulations, Practices, and Contracts of LOS ANGELES GAS AND ELECTRIC CORPORATION.

ORDER INSTITUTING INVESTIGATION

By the COMMISSION:

Good cause appearing,

It is hereby ordered that an investigation be and the same is hereby instituted upon the Commission's own motion into the rates, charges, classifications, rules, regulations, practices and contracts, or any of them, of Los Angeles Gas and Electric Corporation, and

It is hereby further ordered that a public hearing on said investigation be had before Commissioner Carr on Tuesday, the 12th day of November, 1929, at 10:00 o'clock a. m., in the Court Room of the Commission, 810 Associated Realty Building, Los Angeles, and

It is hereby further ordered that the Secretary of this Commission serve or cause to be served upon Los Angeles Gas and Electric Corporation a copy of this order, together with a notice of hearing at least ten (10) days prior thereto.

Dated at San Francisco, California, this 29th day of August, 1929.

Thos. S. Louttit, C. L. Seavey, Ezra W. Decoto, Leon O. Whitsell, W. J. Carr, Commissioners.

[fol. 306] Said proceeding came on for hearing before Commissioner Carr at Los Angeles, California, on November 12, 1929, and the hearing thereof was continued thereafter from time to time until completed on July 16, 1930.

At said hearing appearances were made on behalf of Railroad Commission of the State of California, Los Angeles Gas and Electric Corporation, the City of Los Angeles, the City of Pasadena, the Board of Public Utilities of the City of Los Angeles, and the City of Santa Monica.

In this condensed statement of the evidence the Railroad Commission of the State of California is referred to as the Commission and Los Angeles Gas and Electric Corporation (respondent in said proceeding and plaintiff and appellant in this case) is referred to as the Company.

[fol. 307] C. C. Brown was called as a witness on behalf of the Commission and, having been duly sworn, testified as follows:

I am Gas Engineer and Gas Administrator of the Commission, and as such my duties are to go over gas rate matters that come before the Commission, involving rate and service conditions, investigation of gas purchase contracts and the utilization and allocation of gas in times of shortage; I have been with the Commission since 1922; prior to that time was employed by a number of public utilities, including the Southern California Edison Company, Pacific Gas and Electric Company, Northern California Power Company, Pacific Light & Power Company, Southern Pacific Railroad and other industrial engineering construction companies; I was graduated from the University of California in 1914 in mechanical and electrical engineering; my first work with the Railroad Commission in 1922 was in connection with valuation matters, including a portion of the Southern California Gas Company's system, and I have been connected with gas rate cases coming before the Commission since 1922.

The Commission offered, and there was admitted in evidence, Commission's Exhibit No. 2, which is in the following form:

FOLDOUT(S) IS/ARE TOO LARGE TO BE FILMED

[fol. 309] All of the calculations contained in this exhibit are on an historical cost basis (by which I mean the actual historical cost, as far as rate base and fixed capital is concerned) of the property that is used and useful in connection with the operations of this Company, to which has been added the appreciation in land values. To the rate base made up in the usual manner by the average fixed capital used and useful in the years shown, there has been added an estimate of working cash capital and an estimate of the average materials and supplies necessary for each particular year, and a deduction made of advances in aid of construction. The rate base used in this exhibit, as to fixed capital, is made up from bases used in prior rate cases, the actual or estimated net additions and betterments being averaged for the year and effect given to estimated increases in land value, as they have been fixed in prior proceedings or by other witnesses who are to appear in this proceeding. All figures subsequent to the first 9 months of 1929 are estimates.

The item of "production" shown in the exhibit includes cost of natural gas purchased by the Company at the actual cost in 1926, 1927, 1928, and the first 9 months of 1929. For the balance of the period covered by the exhibit a figure of 17 cents per thousand cubic feet (m. c. f.) has been used, being an estimate of the cost at the present wholesale rates, provided the Company takes approximately half its requirements from the Southern California Gas Company and the other half from the Southern Counties Gas Company. The Company purchases all of its [fol. 310] natural gas delivered to its system at various points. The actual cost of gas purchased in 1929 was 17.8 or 17.9 cents. The rates paid various sellers of gas vary and the 17 cents is predicated on assumption of equal purchases from the two companies named.

There is a definite relation between any increase in cost of natural gas and the cost of the service. In estimating the gas required to be purchased for various estimated sales, 12½ per cent is added to the sales for unaccounted for gas, a figure somewhat lower than the Company has actually experienced, its losses being rather high due to mixed gas service. For each thousand cubic feet of gas sold the Company would have to send out 1143 cubic feet

on that basis, and as a result, for each increase or decrease of one cent per m. c. f. in the cost of gas purchased, the cost of gas sold will be increased or decreased 1.14 cents.

The estimates shown in Exhibit No. 2 are made for the purpose of a prima facie showing. It has not been attempted, nor has there been time, to make a thorough and painstaking investigation into the various factors entering into such estimates, and therefore to a large extent trends based upon judgment have been used. A more thorough study would probably result in changes in these figures, both up and down. Estimated sales have been predicated upon formulas previously used, making adjustment of actual sales to correct to average temperatures for the past 21 years. An estimate of 12,000 additional meters per year was made for the last 3 years shown in Exhibit No. 2. From 1927 to 1928 the actual gain was approxi- [fol. 311] mately 15,000, and the estimated gain from 1928 to 1929, 9,500 meters, the distribution of meters in service by months being in the same ratio as was experienced in 1927, 1928 and 1929.

Cross-examination:

The rate base shown in Exhibit No. 2 includes the manufacturing plant for the reason that the same has been in use as a standby plant. In 1927 oil gas was actually made in the plant and mixed with natural gas during the transition period and it has been felt up to the present time that that plant was used and useful as a standby plant and should be kept ready during the winter months for the generation of oil gas, if necessary, and it is my opinion that the plant should be kept in the rate base for future years, at least for a period during which it may be necessary to operate it.

There are three companies distributing natural gas in Los Angeles, but this Company has the largest capacity plant of any of them. It could not obtain standby service from the others, and in fact furnishes standby service to one of the other distributing companies.

Of the "production expense" shown in Exhibit 2, a relatively small portion is incurred incident to the production of gas, manufactured or other. It could as well be classified under some other name.

A variation from average temperature occurring during the summer months has practically no effect on sales. A

similar variation during the winter, when gas is used for [fol. 312] heating purposes, has a material effect.

Recalled:

I have compiled from statistics of the Natural Gasoline Association some figures showing past performance in regard to the production, utilization and wastage of natural gas in various districts in the State of California. I have made no estimate as to the future supply of gas available for sale to the gas distributing companies in the Los Angeles Basin. Los Angeles Basin is in an area within a 25 or 30-mile radius of the City of Los Angeles, some of the fields lying within the city limits; the Ventura field is between 50 and 60 miles from Los Angeles, and the pipe lines therefrom cross a range of mountains of substantial elevation; Santa Maria field is north of Ventura and no gas comes from Santa Maria into Los Angeles; Kettleman Hills field is approximately 200 miles north of Los Angeles, the pipe line therefrom crossing the Tehachapi Mountains and a number of rivers, which during some winters carry a considerable amount of water; the Midway field is 110 to 120 miles north of Los Angeles; the Coalinga field is located about 10 miles north of Kettleman Hills; no gas has come from Coalinga to Los Angeles.

In the Los Angeles Basin field the transmission lines and compressor plant facilities of the various companies are interconnected, resulting in a complex operation, and the quantity of gas that can be delivered at any time is dependent upon the location of the demand and the pressure conditions existing at the time. There is no definite figure [fol. 313] that can be given for a general set of conditions. The aggregate capacity of pipe lines from the various fields in the Los Angeles Basin is 364,000,000 cubic feet per day. It is impossible to determine what percentage of the gas purchased by the Company comes from the various districts because the amount varies at different times and under different conditions, depending upon the production in the field, which varies from day to day, and the location of the demand, which varies from hour to hour.

In some lines gas may travel in a reverse direction within an hour. In the winter time, when the consumers of the distributing utilities create a heavy demand, all gas that can

be secured is secured. The demands on the distributing companies come on so rapidly that at times it is necessary to discontinue service to industrial consumers in order to supply domestic demand. The figure of 364,000,000 cubic feet per day is not the maximum that could be secured with the facilities available, but is the maximum delivery capacity of the field under present conditions. On January 11, 1930 the Company had a peak demand of 136,205,000 cubic feet. My recollection is that the largest demand experienced within the Los Angeles Basin by all utilities was between 350 and 400 million cubic feet. That demand was substantially in excess of the amount available within the Los Angeles Basin because I know that industries were cut off.

[fol. 314] L. E. TORREY was called as a witness on behalf of the Commission and, having been duly sworn, testified as follows:

I am assistant engineer in the Valuation Division of the California Railroad Commission and have been so employed since November, 1923; beginning in 1904 I was a journeyman electrician; from 1906 to 1910 I attended the University of California, graduating in electrical engineering in 1910; thereafter in 1912 I was employed by the Pacific Light and Power Company, Los Angeles; in 1912 and 1913 by the Oro Electric Corporation of San Francisco; in 1913 by E. B. Bumstead, consulting engineer in San Francisco; in 1914 I was with H. P. Gillette, consulting engineer on the valuation of Southern Sierras Power Company; in 1915 with A. R. Kelley, on valuation of the Sacramento Gas Company; in 1916 with Mr. Millard on the valuation of the Coast Counties Gas and Electric Company; and later with G. R. Kenny on valuation of Midland Counties Public Service Corporation; 1916 to 1918 I was again with Mr. Kelley on the valuation of Great Western Power Company's properties; in 1918 and 1919 with Shaw-Batcher Shipyards; and from 1919 to 1923 I was engaged in ranching; since 1923 I have been with the Commission on valuation work, having been engaged on various matters in connection with valuation of Los Angeles Railway Corporation, Pacific Electric Railway, Pacific Gas and Electric

Company and Great Western Power Company in San Francisco condemnation proceedings, Southern California Edison Company condemnation, Oroville condemnation of Pacific Gas and Electric Company, Key System Transit Com-
[fol. 315] pany, California Water Service Company and others.

Estimates have been made of reproduction cost on the properties of Los Angeles Gas and Electric Corporation in both gas and electric departments by the application of price trend figures to historical costs as shown by the Company's records.

Applying such prices to the historical gas capital of $58,052,002.46, the average fixed capital of gas department for the year 1929 used by Mr. Brown in his Exhibit 2, less deduction of $4,636.64 for donations in aid of construction, I find that the reproduction cost of such property is $64,104,719.36.

Such estimates have been made entirely upon the items shown in the books of the Company. If the capital shown on the books was changed, I would start with a different and higher figure. The overheads shown on the books are quite low on the historical basis. On a reproduction basis the overheads would be substantially higher than on an historical basis, being approximately twice as great as the historical overheads. A translation of book figures to current price levels is not a reproduction estimate at all. This is not an estimate of the cost to reproduce the property, but simply the book figures brought down to a 1928 price level. It is wrong to call it a reproduction new estimate.

In a reproduction estimate indirect construction costs (overheads) would be approximately 21 per cent as against 6 per cent set up on the books of the Company for such costs.

[fol. 316] E. P. McAuliffe was called as a witness on behalf of the Commission and, having been duly sworn, testified as follows:

I am Assistant Engineer in charge of land appraisals for the California Railroad Commission, and I have been with the Commission, except for 1½ years, since 1913 engaged on valuation work and have been in charge of land appraisals since 1919; prior to employment with the Commission I was

with the Southern Pacific Company for 5 years; since 1919 I have handled all land and right of way work for the Commission and have made appraisals covering the lands and right of way of most of the larger public utilities in California, among such appraisals being Pacific Gas and Electric Company, electric system, Great Western Power Company, Western States Gas and Electric Company, Southern Sierras Power Company, Market Street Railway, San Francisco, Key System Transit Company, Alameda County lands of the Southern Pacific suburban lines, Pacific Telephone and Telegraph Company properties in San Francisco and the East Bay region, Los Angeles Railway Corporation, Pacific Electric Railway, Southern California Telephone Company, and certain of the properties of Southern California Edison Company, also of the lands of the Gas Department of Los Angeles Gas and Electric Corporation in 1925.

I have made an appraisal of the values of the lands used in the Gas Department of the Company. (Said values, which are shown in Exhibit 46 presented by this witness, are set forth in the tabulation appearing herein in connection with [fol. 317] the testimony of witness Daniel F. McGarry.)

In respect of Parcels 22, 48-A and 16, as to which Mr. McGarry and I differed in our appraisals, we have both used the same values as to which we testified in 1925, and those which I have used were carried into the Commission's decision in that proceeding.

I have read the testimony given by Mr. McGarry in this case. In my opinion the fair value of the properties of the gas department is as shown in my appraisal, $3,693,191. All of these properties are devoted to the gas service with the qualifications shown in my exhibit respecting 4 parcels, which were non-operative as of December 31, 1929.

Cross-examination:

I have discussed at considerable length with Mr. McGarry the various general factors entering into the market value of all of these properties as of January 1, 1930. Mr. McGarry was in possession of the same information that I relied upon and I was in possession of the facts that he relied on, and the differences in our appraisals represent simply different opinions and judgments upon the same data. The question is solely as to whose judgment and opinion as to such values is the best.

[fol. 318] W. C. FANKHAUSER was called as a witness on behalf of the Commission and, having been duly sworn, testified as follows:

I am in charge of the Department of Finance and Accounts of the Commission; I graduated from Pomona College in 1909 and joined the Commission in April, 1912, after completing a three-year graduate course at the University of California, being employed first in the Department of Statistics and Accounts, later in the Stock and Bond Department, of which I was in charge from 1917 to 1920; upon consolidation of the two departments in 1920 I was placed in charge of the same and have been there since; my duties in this department relate to the supervision of account and finance matters and reviewing finance applications.

The Commission offered, and there was admitted in evidence, Commission's Exhibit No. 6, which is in the following form (as supplemented by oral testimony of the witness given at a subsequent session):

[fol. 319] EXHIBIT 6

Los Angeles Gas and Electric Corporation

How Its Properties are Financed and the Cost of Such Financing

Case No. 2747

The properties of Los Angeles Gas and Electric Corporation, as financed on June 20, 1929, were financed through the issue of common and preferred stocks, bonds, the creation of current liabilities, and the investment of earnings offset by reserves and surplus. The company's records show $20,000,000.00 of common, $19,418,700.00 of 6 per cent preferred and $47,121,000.00 of bonds outstanding and in the hands of the public.

The company's present financial structure provides for the issue of common and preferred stocks and first and general mortgage bonds to finance permanently its properties.

The company's records, as of June 30, 1929, show that it had outstanding in the hands of the public $47,121,000.00

of bonds. These bonds bear a nominal interest rate varying from five to six percent as follows:

Interest rate	Amount of bonds
6 percent	$13,483,500.00
5½ "	17,760,500.00
5 "	15,878,000.00
Total	$47,121,000.00

We find that if the bond discount and expense incurred by Los Angeles Gas and Electric Corporation in connection with the present outstanding bonds is amortized on a five percent sinking fund basis, that the effective interest rate applicable to such bonds is 5.96 percent, and that if it is amortized on a straight line basis, the effective interest rate is 6.08 percent. Statements "A" and "B", attached hereto and prepared by Theo. Stein, one of the Commission's accountants, show the amount of bonds of each issue outstanding, the average price at which they were sold, the [fol. 320] net average proceeds, the average annual fixed charges, the effective interest rate, calculated on sinking fund and straight line bases, and the nominal interest rate.

Los Angeles Gas and Electric Corporation has issued $19,418,700.00 of six percent cumulative preferred stock for which it received $17,330,317.50. The stock was sold at prices from $85.00 to $108.00 per share, the average price per share being $89.25 per share. Statement "C" attached hereto, and prepared by Theo. Stein, shows the amount of preferred stock issued each year, the consideration received and the nominal and effective dividend rate.

Assuming that the 6 percent dividend is paid regularly on the preferred stock, the $17,330,317.50 was obtained at an average annual cost of 6.72 percent.

As of June 30, 1929, Los Angeles Gas and Electric Corporation had a depreciation reserve of $15,685,277.11. The Commission in rate proceedings, we are informed, has allowed the company a depreciation annuity calculated on a six percent sinking fund basis. Reports filed with the Commission indicate that the money offset by the depreciation reserve has been invested in its properties. Inasmuch as the depreciation allowance is calculated on a six percent

sinking fund basis, we have proceeded on the theory that the $15,685,277.11 is costing the company six percent.

We find that the average historical cost of the company's bond, stock and depreciation reserve money is 6.15 per-cent. This average cost is arrived at by the following calculation:

A. Bond Proceeds:	$44,341,480.97	×5.96% =	$2,643,090.30
B. Preferred Stock Proceeds:	17,330,317.50	×6.72% =	1,164,597.34
C. Depreciation Reserve:	15,695,277.11	×6.00% =	941,116.63
Total	$77,367,075.58	6.14%	$4,748,804.27

[fol. 321] The following table shows the earnings of Los Angeles Gas and Electric Corporation on its common stock and the rate of dividend paid from 1912 to 1928, both inclusive. The figures are taken from the annual reports which the company has filed with the Railroad Commission:

Year	Balance earnings available for common stock	Common stock, outstanding end of Year	Earnings on common stock, per cent	Dividends paid, per cent
1912	$725,186.31	$10,000,000	7.25	6.87
1913	734,574.44	10,000,000	7.34	6.60
1914	570,718.96	10,000,000	5.71	6.00
1915	643,563.92	10,000,000	6.43	6.00
1916	1,006,355.15	10,000,000	10.06	7.20
1917	822,886.28	10,000,000	8.23	7.20
1918	733,130.16	10,000,000	7.33	7.20
1919	992,826.38	10,000,000	9.93	7.40
1920	1,045,922.99	10,000,000	10.46	8.40
1921	845,136.31	10,000,000	8.45	8.40
1922	1,601,105.35	10,000,000	16.01	8.40
1923	1,778,648.39	10,000,000	17.79	8.70
1924	2,702,829.68	12,500,000	21.62	33.75 (1)
1925	2,049,857.33	12,500,000	16.40	9.00
1926	1,806,783.94	14,000,000	12.90	9.815
1927	3,562,848.42	20,000,000	17.81	35.17 (2)
1928	3,621,239.28	20,000,000	18.11	15.00
1929	4,667,380.99	20,000,000	23.33	17.00

(1) Includes 25 per cent stock dividend aggregate $2,500,000 par value.
(2) Includes 21.42 per cent stock dividend aggregate $3,000,000 par value.

The Pacific Gas and Electric Company and Southern California Edison Company in reports filed with the Commission show earnings on common stock and dividends paid on common stock as follows:

[fol. 322] A. Pacific Gas and Electric Company

Year	Balance available for common stock	Common stock outstanding end of year	Earnings on common stock, per cent	Dividends paid, per cent
1913.....	$660,581.77	$32,109,000	2.06	1.25
1914.....	2,030,682.34	32,109,300	6.32	....
1915.....	3,212,049.65	34,035,858	9.43	6.00
1916.....	2,923,744.25	34,035,858	8.59	5.00
1917.....	1,709,975.25	34,004,058	5.02	3.75
1918.....	2,232,122.45	34,004,058	6.56	....
1919.....	3,041,344.17 (3)	34,004,058	8.94	5.00
1920.....	2,142,025.53	34,004,058	6.30	5.00
1921.....	2,833,586.71	34,004,058	8.33	5.00
1922.....	3,982,840.54	34,684,034	11.48	7.25 (4)
1923.....	3,621,265.89	35,630,885	10.16	8.50 (4)
1924.....	4,483,768.21	41,705,931	10.75	8.00
1925.....	5,315,561.78	47,416,548	11.21	8.00
1926.....	5,311,995.55 (2)	52,803,915	10.05	8.00
1927.....	6,585,219.00	64,583,465	10.19	8.00
1928.....	8,616,166.47 (1)	71,112,440	12.11	8.00
1929.....	10,695,560.32	83,232,281	12.85	8.00

(1) Includes revenues of Coast Valleys Gas & Electric Company, Tuolumne Light & Power Company, Vacaville Water & Light Company and Western States Gas & Electric Company.

(2) Includes revenues of Middle Yuba Hydro Electric Power Company, Peters Bros., Towle Bros., and Sacramento Gas Co.

(3) Includes revenues of Northern California Power Company, Consolidated.

(4) Includes 2 per cent stock dividend.

B. Southern California Edison Company

Year	Balance earnings available for common stock	Common stock outstanding end of year	Earnings on common stock, per cent	Dividends paid, per cent
1912.....	$452,618.80	$8,400,000	5.39	5.00
1913.....	635,020.20	10,400,000	6.11	6.79 x
1914.....	700,966.47	10,400,000	6.74	6.00
1915.....	771,317.29	10,400,000	7.42	6.00
1916.....	896,001.17	10,411,000	8.61	6.25
1917.....	935,534.05	14,064,572	6.65	7.00
1918.....	1,061,970.72	14,206,972	7.47	7.00
1919.....	1,101,687.70	18,526,972	5.95	7.00
1920.....	2,190,300.38	19,671,372	11.13	7.00
1921.....	2,532,531.61	33,217,472	7.62	8.00
1922.....	3,731,854.96	38,123,172	9.79	8.00
1923.....	5,052,696.45	40,478,072	12.48	8.00
1924.....	46,510.76	41,833,472	.11	8.00
1925.....	4,695,455.34	43,271,072	10.85	8.00
1926.....	5,196,666.30	44,150,797	11.77	8.00
1927.....	6,299,206.61	49,235,172	12.79	8.00
1928.....	6,836,903.26	55,202,647	12.39	8.00
1929.....	9,439,603.87	62,227,947	15.16	8.00

x Includes Scrip Dividend of $150,000.00.

We are calling attention to the earnings on the common stock of Pacific Gas and Electric Company and Southern California Edison Company, and the dividends paid by [fol. 323] those companies, because their common stock is

traded on stock exchanges. As said, the common stock of Los Angeles Gas and Electric Corporation is not traded on any exchange. The earnings of the corporation and the dividends paid by it, however, compare favorably with the earnings and dividends of the other two companies. Likewise, the corporation has been obtaining for its bonds and preferred stock substantially the same prices as have the two companies mentioned. It seems to us that in view of the earnings of Los Angeles Gas and Electric Corporation, the dividends paid by it, and the prices at which its securities have been sold, that its common stock could be disposed of as readily and at about the same prices as the common stock of Pacific Gas and Electric Company and Southern California Edison Company.

[fol. 324]

FANKHAUSER EXH. 6

Statement "A"

Los Angeles Gas and Electric Corporation

Statement Showing Effective Interest Rate on Money Realized from the Sale of Bonds Outstanding in the Hands of the Public at June 30, 1929 if Discount and Expense Is Amortized on a 5% Sinking-fund Annuity Basis

Issue	Date sold	Term yrs.	Par value outstanding in hands of public	Average price sold	Net average proceeds	Average annual fixed charges	Effective interest rate	Nominal interest rate
Los Angeles G. & E. Co. Gen. Mtg.	1904 to 1909	30	$987,000.00	$96.30	$950,465.87	$50,376.42	5.30%	5.00%
Los Angeles G. & E. Corp. 1st & Ref. Mtg.	1909 to 1920	30	4,891,000.00	93.41	4,568,630.41	250,463.34	5.48%	5.00%
Los Angeles G. & E. Corp. Gen. Ref. "D"	1922	20	1,937,500.00	95.76	1,855,439.55	118,659.31	6.40%	6.00%
Los Angeles G. & E. Corp. Gen. Ref. "E"	1922	25	4,999,500.00	91.98	4,598,410.06	283,376.25	6.16%	5.50%
Los Angeles G. & E. Corp. Gen. Ref. "F"	1923	20	3,809,000.00	94.01	3,580,872.05	216,394.15	6.04%	5.50%
Los Angeles G. & E. Corp. Gen. Ref. "G"	1923	19	4,000,000.00	94.76	3,790,565.14	246,857.91	6.51%	6.00%
Los Angeles G. & E. Corp. Gen. Ref. "H"	1924	18	7,545,000.00	94.53	7,132,428.99	467,365.24	6.55%	6.00%
Los Angeles G. & E. Corp. Gen. Ref. "I"	1924 to 1926	25	8,952,000.00	93.78	8,394,957.19	503,363.91	6.00%	5.50%
Los Angeles G. & E. Corp. 1st & Gen.	1927	35	10,000,000.00	94.70	9,469,711.71	506,233.77	5.34%	5.00%
Total			$47,121,000.00	$94.10	$44,341,480.97	$2,643,090.30	5.96%	5.47%

[fol. 325]

FANKHAUSER EXH. 6

Statement "B"

Los Angeles Gas and Electric Corporation

Statement Showing Effective Interest Rate on Money Realized from the Sale of Bonds Outstanding in the Hands of the Public at June 30, 1929, if Discount and Expense Is Amortized on a Straight Line Method

Issue	Date sold	Term yrs.	Par value outstanding in hands of public	Average price sold	Net average proceeds	Average annual fixed charge	Effective interest rate	Nominal interest rate
Los Angeles G. & E. Co. Gen. Mtg.	1904 to 1909	30	$987,000.00	$96.30	$950,465.87	$50,652.02	5.33%	5.00%
Los Angeles G. & E. Corp. 1st & Ref. Mtg.	1909 to 1920	30	4,891,000.00	93.41	4,568,630.41	255,974.27	5.60%	5.00%
Los Angeles G. & E. Corp. Gen. Ref. "D"	1922	20	1,937,500.00	95.76	1,855,439.55	120,353.02	6.49%	6.00%
Los Angeles G. & E. Corp. Gen. Ref. "E"	1922	25	4,999,500.00	91.98	4,598,410.06	291,015.93	6.33%	5.50%
Los Angeles G. & E. Corp. Gen. Ref. "F"	1923	20	3,809,000.00	94.01	3,580,872.05	220,901.27	6.17%	5.50%
Los Angeles G. & E. Corp. Gen. Ref. "G"	1923	19	4,000,000.00	94.76	3,790,565.14	251,022.75	6.62%	6.00%
Los Angeles G. & E. Corp. Gen. Ref. "H"	1924	18	7,545,000.00	94.53	7,132,428.99	475,620.26	6.67%	6.00%
Los Angeles G. & E. Corp. Gen. Ref. "I"	1924 to 1926	25	8,952,000.00	93.78	8,394,957.19	514,774.30	6.13%	5.50%
Los Angeles G. & E. Corp. 1st & Gen.	1927	35	10,000,000.00	94.70	9,469,711.71	515,370.60	5.44%	5.00%
Total			$47,121,000.00	$94.10	$44,341,480.97	$2,695,684.42	6.08%	5.47%

[fol. 326]

FANKHAUSER EXH. 6

Statement "C"

Los Angeles Gas and Electric Corporation

Statement Showing Money Realized from the Sale of Preferred Stock Outstanding in the Hands of the Public at June 30, 1929 and Effective and Nominal Dividend Rate

Issue	Date	Par value issued	Average price	Net proceeds	Dividend charges	Effective dividend rate	Nominal dividend rate
6% Cumulative preferred stock	1921	$1,410,600.00	$85.00	$1,199,010.00	$84,636.00	7.06%	6.00%
" " "	1922	4,008,100.00	86.61	3,471,262.50	240,486.00	6.93%	6.00%
" " "	1923	1,506,300.00	89.79	1,352,562.50	90,378.00	6.68%	6.00%
" " "	1924	5,978,700.00	90.06	5,384,507.50	358,722.00	6.66%	6.00%
" " "	1925	5,661,600.00	90.58	5,128,289.00	339,696.00	6.62%	6.00%
" " "	1926	488,600.00	91.42	446,690.00	29,316.00	6.56%	6.00%
" " "	1927	251,400.00	92.86	233,457.50	15,084.00	6.46%	6.00%
" " "	1928	91,600.00	100.00	91,599.50	5,496.00	6.00%	6.00%
" " "	1929	21,800.00	105.22	22,939.00	1,308.00	5.70%	6.00%
Total		$19,418,700.00	$89.25	$17,330,317.50	$1,165,122.00	6.72%	6.00%

[fol. 327]

FANKHAUSER EXH. 6

Statement "D"

Los Angeles Gas and Electric Corporation

Statement Showing Amount of Common Stock Issued and Consideration Received Therefor Outstanding at June 30, 1929

Issue	Date issued	Par value issued	Cash	Property	Total
Common stock	1909	$7,250,000.00	$7,000.00	$7,243,000.00	$7,243,000.00
" "	1912	2,750,000.00	.....	2,750,000.00	2,750,000.00
" "	1924	2,500,000.00	2,500,000.00*	.....	2,500,000.00
" "	1926	1,500,000.00	1,500,000.00	.....	1,500,000.00
" "	1927	6,000,000.00	6,000,000.00†	.....	6,000,000.00
Total	1929	$20,000,000.00	$10,007,000.00	$9,993,000.00	$20,000,000.00

* Stock Dividend.

† $3,000,000.00 Stock Dividend.

[fol. 328] In computing the effective rate of bond interest there has been considered only the discount and expense on bonds now outstanding. On February 2, 1927, the Commission authorized the Company to issue $10,000,000 5% bonds maturing in 1961 and to use part of the proceeds thereof for the purpose of redeeming and retiring $5,000,000 7% bonds due in 1931 and $1,895,500 5½% bonds due in 1949. None of the premium paid in connection with such refunding has been included in the cost of the presently outstanding issue, although permission was then given by the Commission to amortize the discount and premium on the 7% bonds through the year 1931. The Commission's regulation requires such discount and premium to be charged to surplus. In my opinion the permission was granted to avoid an undue charge to the Company's surplus account, and not with any view of it being translated into the cost of money. I think that is sound.

I have made no attempt to determine the historical cost of common stock money of Los Angeles Gas and Electric Corporation. That stock is all owned by Pacific Lighting Corporation and is not traded on any exchange. I think the earnings are comparable to those of Pacific Gas and Electric Company and Southern California Edison Company, and that we might assume that the common stock of Los Angeles Gas and Electric Corporation would be traded on substantially the same basis as the stock of those two companies. As of June 30, 1929, the Company's bonded indebtedness represents 54 per cent of its outstanding capitalization, preferred stock 22 per cent and common stock 23 per cent. Although the Company reports the tax paid on [fol. 329] behalf of bondholders under covenants in its mortgages as a non-operating tax, it seems to me that such amount should be treated as added cost of bond money in addition to the figures I have shown. The amounts paid since 1924 have varied from $15,900 to $28,000 per year. This study does not purport to give the present cost of money.

At the request of the Commission's valuation department I have calculated the interest rate which would be applicable for a 1-day construction period June 15, 1930, and for a 4-year construction period ending December 31, 1929, with 1-year preliminary. For the 1-day construction period the interest would be 6.055 per cent, and for the 4-year period,

6.89 per cent. I have proceeded on the assumption that the present earnings would be available upon completion of the property. In determining the 6.055 per cent I assumed the sale of 5 per cent, 30-year bonds at 94.44 to yield 5.375 per cent, the sale of 6 per cent preferred stock at 93 to yield 6.45 per cent, and common stock at 90 on a 7 per cent dividend, which would be a 7.7 per cent basis.

For the 4-year period I assumed the raising of the required money, 60 per cent through bonds and 40 per cent through common stock. I assumed the sale of bonds over a period of 4 years from the period 1926 to 1929 as follows:

Year	Nominal Rate	Term	Price	Effective rate
1926	6%	25 years	89.62	6.875%
1927	6%	25 years	93.86	6.5 %
1928	5%	25 years	87.13	6.0 %
1929	5%	25 years	90.11	5.75 %
Average				6.375%

For the common stock I assumed sale at 90 on a 7 per cent [fol. 330] basis, an effective rate of 7.7 per cent. The average of the two is 6.89 per cent. These prices are based on the prices for which bonds of Pacific Gas and Electric Company, Southern California Edison Company and Los Angeles Gas and Electric Corporation were selling during those years, plus an allowance for the fact that this would not be an operating property during that period, and under the conditions assumed I am of the opinion that the percentages are reasonable and proper.

The sole purpose of presenting comparison with the Pacific Gas and Electric and Southern California Edison stocks is that the common stock of Los Angeles Gas and Electric Corporation is not listed and these are the only two comparable companies that I know of. It was my purpose to submit some figures from which a conclusion might be reached as to the price at which the common stock of this Company might sell.

Cross-examination:

In my opinion the principal factor entering into the determination of a fair return is keeping the utility in a position where it can function properly, maintain its credit and furnish the service at reasonable rates. There is little or no relation between the earnings on the common stock

and the fair rate of return. My comparison of the earnings and dividends on common stock of this Company and of the other two companies shown was not for the purpose of comparing the returns made by any of these companies on the value of their properties, which could not be done in that way. I would not say that Los Angeles Gas and Electric Corporation could have obtained common stock [fol. 331] money historically on any more favorable basis than Southern California Edison Company or Pacific Gas and Electric Company, but I think it could have obtained money on approximately the same basis. I might qualify this statement by saying that the earning record of the Los Angeles Gas and Electric Company has been more constant than the other companies, but generally speaking I would put them on practically the same basis. I have given no consideration to the historical cost of the moneys invested in the gas department, as distinguished from moneys invested in the Company as a whole.

In arriving at my estimate of the rate of interest during construction I assumed the necessity of raising $60,000,000, 60 per cent through bonds and 40 per cent through common stock, referring to proceeds and not par value. I assumed that the earnings upon completion would be those actually enjoyed in 1929. The first security issued would be common stock, and thereafter bonds could be issued against prior construction. The amounts raised from sale of stock and bonds in each year was assumed to be:

	Stocks	Bonds
1st year	$3,000,000	None
2nd year	4,200,000	$10,800,000
3rd year	7,200,000	10,800,000
4th year	6,000,000	9,000,000
5th year	3,600,000	5,400,000

There would be no dividends paid on the common stock until after completion of the property, and I have assumed that the stock could be sold on the basis of a 7 per cent dividend after completion. I think that such stock could have been sold in 1925, although it would not bear dividends until 1930. I assumed that the stock could be sold on as [fol. 332] favorable a basis in the first year, when the pur-

chaser would have to wait 5 years for dividends, as in the last year, when dividends would commence the next year.

No interest during construction should be allowed on money obtained through the sale of stock, upon which no dividends are being paid, and if a company had been financed entirely through the sale of common stock, paying no dividend until after the property was completed, I do not believe that any interest should be allowed during construction. If they pay no interest, there is no cost. I have not computed the assumed dividend for the entire period that the various blocks of stock which would be outstanding, but have allowed 7.7 per cent on $24,000,000.

[fol. 333] A. V. Guillou was called as a witness on behalf of the Commission and, having been duly sworn, testified as follows:

I am Assistant Chief Engineer of the California Railroad Commission and have held that position about three years; I graduated from the electrical engineering course of the University of California in 1912, and from that time until 1920 I worked in various capacities with a manufacturing concern and with power companies in California. Since 1920 I have been continuously employed by the Commission as assistant engineer, Gas and Electric Engineer, and in my present position, my duties being principally in connection with proceedings and investigations involving gas and electric companies.

California state taxes are 7½ per cent of the gross operating revenues of gas and electric companies, computed on the basis of the preceding year's gross revenue and become a lien March 1st, payable one-half on or about August 1st of that year and the remaining one-half on or about February 1st of the following year. It has been the practice of the Commission for the past ten years, in considering state taxes in rate cases, to include in the operating expense the tax which becomes a lien on the first Monday in March of that year; one-half of this tax under the law is paid about August 1st of that year, and the second half about February 1st of the following year. This permits the Company to accrue taxes prior to the date they

are paid. If the Company's revenues were constant from year to year it would make no difference whether or not taxes were accrued on the basis of current year's revenues or preceding year's revenues. The money accrued for [fol. 334] taxes will be paid out about a month after the end of the half year period during which it is accrued. Assuming uniform accrual, the varying sum which the Company will have on hand will be equivalent to about one-quarter of the amount of the tax.

Cross-examination:

As a matter of theory one-quarter of the tax accruals should be deducted in computing working capital, because of the accrual in advance of the Company's obligation to pay the taxes. However, in the absence of an exact formula for the purpose of calculating working capital, I don't know that that deduction is particularly important, that is, we are getting down to rather a hairsplitting point of view when that deduction is made, and I am not sure that the accuracy with which the required working capital can be calculated justifies that fine a distinction, although as a matter of principle, I think the deduction is proper.

Recalled.

I have calculated what is in my opinion a reasonable allowance for working cash capital and for materials and supplies; in determining working cash capital I have not used the method of analysis of the Company's balance sheet to determine the actual amount of such capital employed by the Company because in my opinion such method is objectionable in that the funds actually employed are used for both gas and electric departments and also for the purpose of meeting its dividend and interest requirements, as well as operating expenses. An analysis of the Company's cash account during 1929 shows total disbursements of over $30,000,000, while the operating expenses total less than $10,000,000. I have used the formula usually used by the Commission for the determination of working capital, [fol. 335] which is based upon the following logical development: One month's service of gas has been supplied when the consumer's meter is read; about three weeks more usually elapse before bills can be rendered and collected,

making a total of nearly two months between the time operating expenses have been incurred and before collections are received. An offsetting item is in the lag between the wholesale purchase of gas by the Company and the payment therefor. The large bills for wholesale service are more promptly handled than the aggregate of the smaller bills of consumers, and a lag of one month in the payment of such bills has been accepted. The computation is as follows:

1/6th of operating expense, except depreciation and cost of gas purchased	$501,000
1/12th of cost of gas purchased	346,000
Total	$847,000
Deduct ¼th of tax accruals	275,000
Working capital for 1929	$572,000

Used as reasonable $575,000.

Adjusted to the basis of 1930 estimated expenses, this figure would become $642,000.

In computing the materials and supplies I have taken the actual amount of materials and supplies, as shown by the books of the Company for the year 1929, prorating joint supplies to the gas department, and derived an average for the year of $571,000. No return should be allowed on materials and supplies held for construction purposes on which the Company sets up interest during construction. In 1929 the Company charged interest during construction on an average balance of $425,500 of materials and supplies [fol. 336] for the gas department, and I have deducted this amount, leaving a balance of $145,500 and have used $150,000 as reasonable, which likewise would be increased for 1930 on the basis of the increase in operating expenses and would amount to $158,000 for 1930.

Cross-examination:

In Decision 9132, in 1921, the Commission allowed the Company, in the rate base there used, $300,335 for working cash and $572,250 for material and supplies, a total of $872,585, the estimated operating expense being $5,545,000.

In Decision 17830, on December 31, 1926, the allowance for working cash was $600,000, for material and supplies $1,226,000, a total of $1,826,000, with estimated operating expense of $6,544,000. In Decision 20448, in 1928, the total allowance was $1,800,000, not segregated between working cash and material and supplies. The operating expenses I have given exclude depreciation but include taxes. The comparable estimate for 1929 is $8,788,000. My present estimate for 1929 is $575,000 for working cash and $150,000 for material and supplies, a total of $725,000. The difference is entirely in the material and supplies, due to the elimination of materials and supplies held for construction.

This deduction has been made because I understand that in the valuation which is being prepared by the Commission interest is being charged on materials and supplies during the time they are in the yard, and has been included in overhead expense. If the rate base finally used does not include interest on materials and supplies while held in the material yard, then a corresponding correction should be made in my figures; the amount deducted either should be included in the rate base or not deducted from the materials [fol. 337] and supplies. All of the materials and supplies actually on hand are, generally speaking, used and useful property, and in a practical sense the Company could not operate without a substantial stock of such materials and supplies, since it is required to carry on construction work at all times. I only considered the amount of materials and supplies on hand in 1929 and did not consider the amount that was held in prior years.

Recalled.

I have made a comparison of the various estimates of sales which have been introduced in evidence in this case showing the effect of temperature correction adjustments and the fluctuation in sales with variations in temperature. The method followed by Mr. Luick results in the lowest estimate of any that have been introduced. This is due to the use of a 10-year average temperature, and if the 21-year average temperature had been used by him the result would have been about the highest estimate.

While it has been suggested that the reason for the falling off of sales per meter is due to saturation of the gas

business, I do not believe that this is correct. I found that the sales of the Southern California Edison Company to domestic consumers for cooking and heating purposes follow much the same trend as the sale of gas for domestic and commercial purposes. The electric business is not saturated as to sales of electricity, yet its sales to domestic consumers shows the same characteristics as the sales of gas.

[fol. 338] Cross-examination:

The actual sales have been lower than the temperature corrected sales for the entire period since January, 1925, with the exception of about 8 months, which indicates that the temperature has been higher than average of the past 21 years. If rates had been made on the temperature adjusted basis during the last six years, and had worked out exactly according to theory, the Company would have earned less than a fair return throughout that period. The same would be true for 1930 inasmuch as the first five months show actual sales less than temperature adjusted.

My opinion as to the reason for the sales of electricity for cooking and heating purposes dropping off is that it is caused by the general depression now existing. When I say that the sales of electricity for domestic purposes have not reached the saturation point I mean that more water heaters and electric refrigerators are now being sold and used and it is generally accepted that sales of electricity for domestic purposes are just beginning so far as heavy appliances go, and that such use will increase in the future. This will have some effect on the gas business.

With the exception of the 12 months ending June 30, 1930, period, the actual sales have been less than the temperature adjusted sales for each 12 months ending period since February 1, 1929, and the discrepancy, with the exception of that month, has increased each month.

[fol. 339] P. E. Dufour was called as a witness on behalf of the Commission and, having been duly sworn, testified as follows:

I am valuation engineer of the Railroad Commission of California and have held that position for 3½ years; I have

been working at professional engineering for 25 years, of which 8 years has been on railroad construction work and 15 years on valuation work. In 1904 I completed a course in railroad engineering at Van der Naillen School of Engineering in San Francisco; from 1906 to 1914 I was employed by the Southern Pacific Company in various engineering capacities; from 1915 to 1931 I was employed by the Interstate Commerce Commission, working on the valuation of interstate railroads; in March, 1921, I became an assistant engineer in the transportation division of the Commission, devoting the most of my time to valuation matters, and I made a careful study of the Interstate Commerce Commission's valuation of interstate steam railroads, and participated in numerous valuation and rate proceedings before the California Commission; on January 1, 1927 I became valuation engineer and was placed in charge of the valuation division of the Commission's engineering department; as such valuation engineer I have superintended public utility valuations made by the Commission since January 1, 1927; during that time valuations have been made under my direction in proceedings concerning the issuance of securities, the transfer of public utility properties, in condemnation proceedings and for rate making purposes.

[fol. 340] The Commission offered and there was admitted in evidence Commission's Exhibit No. 52, which is in the following form:

[fol. 341] EXHIBIT 52

Appraisal of the Gas Properties, Los Angeles Gas and Electric Corporation

A. Historical Reproduction Cost

Historical Reproduction Cost is defined as the fair market value of the company's lands as of the date of the valuation, and for all other properties, either the actual cost, if reasonable and ascertainable, as of the time of acquisition or construction by the company, or the estimated amount of money reasonably required to reproduce the various units of property existing on the date of valuation in the same condition as when they were acquired or installed by the

company, at price levels and under conditions effective as of the respective dates of acquisition or installation.

(1) Six per cent has been added to cover the general overheads. This percentage reflects the amount of general overheads charged by the company to the Capital Accounts during the period from 1913 to 1929 inclusive.

(2) Eleven and a quarter per cent has been added to cover the general overheads. This percentage reflects the amount of general overheads which could have properly been charged to the Capital Accounts, if the corresponding operating expense charges were properly made.

The overheads may be listed and subdivided as follows:

Engineering and Superintendence	4.58%
Law Injuries and Damages Taxes Miscellaneous	3.75%
Errors, omissions and contingencies	1.00
	9.33%
Interest 1.75% compounded	1.92
Total	11.25%

B. Reproduction Cost New Four-year Average Pricing Period

Reproduction Cost New is defined as the fair market value of lands as of the date of valuation, and for all other properties the estimated amount of money reasonably required to reproduce new the various units of property existing on the date of valuation, assuming construction methods similar to that followed by the company on the actual construction of these properties and the average unit costs of construction or acquisition during the four-year period from January 1, 1926, to December 31, 1929.

[fol. 342] The Company engineers claim that all ¾" to 12" threaded and coupled pipe purchased prior to December 31, 1913, was genuine wrought iron pipe. We have had seven samples of this class of pipe analyzed. These tests show that four of the sections of pipe tested were steel pipe.

In the following Reproduction Cost New, estimates, we have priced this pipe two ways:

(a) Assuming that all of the threaded and coupled pipe would be reproduced as steel pipe.

(b) Assuming that all of the ¾" to 12" threaded and coupled pipe purchased prior to December 31, 1913, would be reproduced as genuine wrought iron pipe.

Pricing so-called wrought iron pipe with steel pipe unit costs:

(3) With 6% overheads added.

(4) With 11.25% overheads added.

(5) Theoretical overheads have been estimated for reproduction cost new based upon a reconstruction program. These overheads may be listed and subdivided as follows:

Engineering and Superintendence	6.00%
Law	.75%
Injuries and damages	1.50%
Taxes	.25%
Miscellaneous	3.50%
Errors, Omissions & Contingencies	2.00%
	14.00%
Interest 7.3% compounded	8.32%
	22.32%

Interest during construction is based upon a five-year construction program, considering money worth 6.9%. Due consideration has been given to interest on bank balances and to the fact that part of the property will become operative before the end of the fifth year.

Pricing so-called wrought iron pipe with genuine wrought iron pipe prices:

(6) With 6% overheads added.

(7) With 11.25% overheads added.

(8) With 22.32% overheads added.

One-day Pricing Period as of December 31, 1929

The inventoried quantities are the same as for the four-year average price, but the units of property have been

priced with unit costs applicable to the property as of December 31, 1929.

For the one-day pricing periods, there are no changes in the overheads, except for interest during construction. Interest during construction, compounded for the one-day [fol. 343] pricing period as of December 31, 1929, becomes 7.64%, giving a total of 21.64%. This reduction is due to the fact that the cost of money is reduced from 6.9% to 6.1% per annum.

Pricing so-called wrought-iron pipe with steel pipe unit costs:

(9) With 6% overheads added.

(10) With 11.25% overheads added.

(11) With 21.64% overheads added.

Prices wrought-iron pipe with genuine wrought-iron pipe prices:

(12) With 6% overheads added.

(13) With 11.25% overheads added.

(14) With 21.64% overheads added.

One-day Pricing Period as of June 15, 1930

The inventoried quantities are as of December 31, 1929, but the various units of property have been priced with unit costs applicable to the property as of June 15, 1930.

Interest during construction compounded for the one-day pricing period as of June 15, 1930, is 7.64%, and is the same as for the one-day pricing period as of December 31, 1929.

Pricing so-called wrought-iron pipe with steel unit costs:

(15) With 6% overheads added.

(16) With 11.25% overheads added.

(17) With 21.64% overheads added.

Pricing wrought-iron pipe with genuine wrought-iron pipe prices:

(18) With 6% overheads added.

(19) With 11.25% overheads added.

(20) With 21.64% overheads added.

[fol. 344] The results of this valuation are briefly summarized as follows:

Item No.		Total	Percent
	Historical Reproduction Cost as of Dec. 31, 1929		
A-(1)	C.R.C. Appraisal with 6% O.H.	$58,399,353	100
(2)	C.R.C. " " 11.25% O.H.	61,019,662	104.5
	Company " Ex. No. 29, Page 1	63,413,246	108.6
	C.R.C. Ex. No. 5 as of 1-1-29, plus net additions and betterments for year 1929	58,578,773	100.3
	Reproduction Cost New as of December 31, 1929, Four-year Average Pricing Period		
B-(3)	C.R.C. Appraisal with 6% O.H.	62,921,902	107.7
(4)	C.R.C. " " 11.25% O.H.	65,768,547	112.6
(5)	C.R.C. " " 22.32% O.H.	71,805,296	123.0
(6)	C.R.C. " " W.I. pipe and 6% O.H.	64,509,688	110.5
(7)	C.R.C. " " " " " 11.25% O.H.	67,434,975	115.5
(8)	C.R.C. " " " " " 22.32% O.H.	73,637,542	126.1
	One-day Pricing Period as of December 31, 1929		
(9)	C.R.C. Appraisal with 6% O.H.	62,730,553	107.4
(10)	C.R.C. " " 11.25% O.H.	65,567,721	112.3
(11)	C.R.C. " " 21.64% O.H.	71,209,442	121.9
(12)	C.R.C. " " W.I. pipe and 6% O.H.	64,202,536	109.9
(13)	C.R.C. " " " " " 11.25% O.H.	67,112,610	114.9
(14)	C.R.C. " " " " " 21.64% O.H.	72,898,613	124.8
	Company " Ex. No. 29, Page 1	77,586,700	132.9
	C.R.C. Ex. No. 5 as of 1-1-29, plus net additions and betterments for year 1929	64,631,489	110.7
	One-day Pricing Period as of June 15, 1930		
(15)	C.R.C. Appraisal with 6% O.H.	62,283,217	106.6
(16)	C.R.C. " " 11.25% O.H.	65,098,229	111.5
(17)	C.R.C. " " 21.64% O.H.	70,696,103	121.1
(18)	C.R.C. " " W.I. pipe and 6% O.H.	63,827,228	109.3
(19)	C.R.C. " " " " " 11.25% O.H.	66,718,713	114.2
(20)	C.R.C. " " " " " 21.64% O.H.	72,467,928	124.1

Tables Nos. 1-4, inclusive, attached hereto, give the complete summary by accounts.

[fol. 345]

Table No. 1

California Railroad Commission, Engineering Department, Valuation Division

Los Angeles Gas and Electric Corporation Gas Properties, Summary of Historical Reproduction Cost as of Dec. 31, 1929

C.R.C. No.	Account	Historical-Reproduction cost 6% O.H. A-1	Historical-Reproduction cost 11.25% O.H. A-2
	Intangible Capital		
301	Organization	$365,529	$365,529
302	Franchises	12,406	12,406
303	Miscellaneous	.....	.....
	Total Intangibles	377,935	377,935
	Land	3,693,191	3,693,191
	Total Land & Intangibles	4,071,126	4,071,126

C.R.C. No.	Account	Historical-Reproduction cost 6% O.H. A-1	11.25% O.H. A-2
	Tangible Capital		
	Production:		
311	Land	.....	.....
312	Structures	1,401,870	1,401,870
313	Boiler Plant Equip	1,127,481	1,127,481
	Gas Generators	1,818,136	1,818,136
314	Purification Apparatus	1,279,540	1,279,540
	Main Pipe Lines	1,835,949	1,835,949
	Accessory Equipt	3,077,618	3,077,618
315	Gas Storage Equipt	2,234,301	2,234,301
316	Misc. Prod. Equipt	179,228	179,228
317	By-Products Structures	202,767	202,767
	By-Products Equipt	1,147,483	1,147,483
	Total Production	14,304,373	14,304,373
	Distribution:		
351	Land	.....	.....
352	Structures	500,159	500,159
353	Distribution Station Equipt	395,594	395,594
354	Distribution Storage Equipt	2,405,049	2,405,049
355	Distribution Mains	18,535,428	18,535,428
356	District Regulators & Meters	274,154	274,154
357	Services	6,625,147	6,625,147
358	Consumers' Meters	4,657,307	4,657,307
	Consumers' Regulators	508,514	508,514
360	Install. Consumers' Prem	13,967	13,967
361	Misc. Distr. Equipt	211,194	211,194
	Total Distribution	34,126,513	34,126,513
	General:		
375	Gen'l Office Land	.....	.....
376	Gen'l Office Structures	1,342,394	1,279,045
377	Gen'l Office Equipt	266,428	266,428
378	Other General Land	.....	.....
379	Other General Structures	354,709	354,709
381	Gen'l Shops Equipt	2,594	2,594
382	Gen'l Stores Equipt	59,021	59,021
383	Gen'l Garage Equipt	623,134	623,134
384	Gen'l Constr. Equipt	128,722	128,722
385	Gen'l Commun. Equipt	45,156	45,156
386	Gen'l Laboratory Equipt	.....	.....
387	Misc. Gen'l Equipt	.....	.....
	Total General	2,822,158	2,758,809
	Total Tangible Capital	54,946,235	54,882,886
	Total Capital	55,324,170	55,260,821
	Intangible & Land	4,071,126	4,071,126
	Total Capital Less Intang. & Land	51,253,044	51,189,695
	Overheads	3,075,183	5,758,841
	Total Capital Including Overheads	58,399,353	61,019,662

[fol. 346]

Table No. 2

Summary of Reproduction Cost New as of Dec. 31, 1929, Using Four-year Average Unit Costs, 1926 to 1929

C.R.C. No.	Account	Reproduction Cost New—4 Yr. Avg., 1926 to 1929 6% O.H. B-3	11.25% O.H. B-4	22.32% O.H. B-5
	Intangible Capital			
301	Organization	$415,000	$415,000	$415,000
302	Franchises	12,406	12,406	12,406
303	Miscellaneous	.....	.....	.....
	Total Intangibles	427,406	427,406	427,406
	Land	3,693,191	3,693,191	3,693,191
	Total Land & Intang	4,120,597	4,120,597	4,120,597
	Tangible Capital			
	Production:			
311	Land	.....	.....	.....
312	Structures	1,368,258	1,368,258	1,368,258
313	Boiler Plant Equipt	1,256,498	1,256,498	1,256,498
...	Gas Generators	1,854,802	1,854,802	1,854,802
...	Purification Apparatus	1,464,192	1,464,192	1,464,192
...	Main Pipe Lines	1,881,788	1,881,788	1,881,788
...	Accessory Equipt	3,346,879	3,346,879	3,346,879
315	Gas Storage Equipt	2,390,102	2,390,102	2,390,102
316	Misc. Prod. Equipt	191,636	191,636	191,636
317	By-Products Structures	191,888	191,888	191,888
...	By-Products Equipt	1,129,274	1,129,274	1,129,274
	Total Production	15,075,317	15,075,317	15,075,317
	Distribution			
351	Land	.....	.....	.....
352	Structures	520,194	520,194	520,194
353	Dist. Station Equipt	397,460	397,460	397,460
354	Dist. Storage Equipt	2,642,365	2,642,365	2,642,365
355	Dist. Mains	20,684,551	20,684,551	20,684,551
356	Dist. Regulators & Meters	272,302	272,302	272,302
357	Services	7,441,741	7,441,741	7,441,741
358	Consumers' Meters	4,958,865	4,958,865	4,958,865
...	Consumers' Regulators	519,800	519,800	519,800
360	Install. Cons. Prem	13,712	13,712	13,712
361	Misc. Dist. Equipt	212,019	212,019	212,019
	Total Distribution	37,663,009	37,663,009	37,663,009

Table No. 2

Summary of Reproduction Cost New as of Dec. 31, 1929, Using Four-year Average Unit Costs, 1926 to 1929

C.R.C. No.	Account	Reproduction Cost New—4 Yr. Avg., 1926 to 1929		
		6% O.H. B-3	11.25% O.H. B-4	22.32% O.H. B-5
	Intangible Capital			
	General:			
376	Gen'l Office Land	.....	.....	.....
376	" " Structures	1,251,111	1,192,070	1,112,305
377	" " Equipt	255,469	255,469	255,469
378	Other Gen'l Land	.....	.....	.....
379	" " Structures	351,794	351,794	351,794
381	Gen'l Shops Equipt	3,198	3,198	3,198
382	" Stores "	59,064	59,064	59,064
383	" Garage Equipt	640,650	640,650	640,650
384	" Constr. "	128,161	128,161	128,161
385	" Commun. "	45,156	45,156	45,156
386	" Lab. Equipt	.....	.....	.....
387	Misc. Gen'l Equipt	.....	.....	.....
	Total General	2,734,603	2,675,562	2,595,797
	Total Tangible Capital	59,166,120	59,107,079	59,027,314
	Total Capital	59,593,526	59,534,435	59,454,720
	Intangibles & Land	4,120,597	4,120,597	4,120,597
	Total Capital less Intang. and Land	55,472,929	55,413,888	55,334,123
	Overheads	3,328,376	6,234,062	12,350,576
	Total Capital Incl. O.H	62,921,902 B-6	65,768,547 B-7	71,805,296 B-8
	Total Capital less Intang. and land	55,472,929	55,413,888	55,334,123
	Addition a/c Wrot Iron	1,497,912	1,497,912	1,497,912
	Total	56,970,841	56,911,800	56,832,035
	Overheads	3,418,250	6,402,578	12,684,910
	Total Capital with Wrought Iron Incl. O. H	64,509,688	67,434,975	73,637,542

[fol. 347]

Table No. 3

Summary of Reproduction Cost New as of Dec. 31, 1929, Using Unit Costs as of Dec. 31, 1929

C.R.C. No.	Account	Reproduction Cost New—One-day, Dec. 31, 1929		
		6% O.H. B-9	11.25% O.H. B-10	21.65% O.H. B-11
	Intangible Capital			
301	Organization	415,000	415,000	415,000
302	Franchises	12,406	12,406	12,406
303	Miscellaneous	.....	.....	.....
	Total Intangibles	427,406	427,406	427,406
	Land	3,693,191	3,693,191	3,693,191
	Total Land & Intangibles	4,120,597	4,120,597	4,120,597

C.R.C. No.	Account	Reproduction Cost New—One-day, Dec. 31, 1929 6% O.H. B-9	11.25% O.H. B10	21.65% O.H. B-11
	Tangible Capital			
	Production:			
311	Land	.....	.....	.....
312	Structures	1,354,711	1,354,711	1,354,711
313	Boiler Plant Equipt	1,282,141	1,282,141	1,282,141
	Gas Generators	1,854,802	1,854,802	1,854,802
314	Purification Apparatus	1,478,982	1,478,982	1,478,982
	Main Pipe Lines	1,863,156	1,863,156	1,863,156
	Accessory Equipt	3,313,742	3,313,742	3,313,742
315	Gas Storage Equipt	2,366,438	2,366,438	2,366,438
316	Misc. Production Equipt	191,636	191,636	191,636
317	By-Products Structures	189,988	189,988	189,988
...	By-Products Equipt	1,118,093	1,118,093	1,118,093
	Total Production	15,013,689	15,013,689	15,013,689
	Distribution:			
351	Land	.....	.....	.....
352	Structures	515,044	515,044	515,044
353	Dist. Station Equipt	401,474	401,474	401,474
354	Dist. Storage Equipt	2,616,202	2,616,202	2,616,202
355	Dist. Mains	20,583,634	20,583,634	20,583,634
356	Dist. Reg. & Meters	272,302	272,302	272,302
357	Services	7,515,107	7,515,107	7,515,107
358	Consumer's Meters	4,898,380	4,898,380	4,898,380
....	Consumer's Regulators	519,703	519,703	519,703
360	Install. Consumers' Premises	13,737	13,737	13,737
361	Misc. Dist. Equipt	212,019	212,019	212,019
	Total Distribution	37,547,602	37,547,602	37,547,602
	General:			
	Gen'l Office Land	.....	.....	.....
376	Gen'l Office Structures	1,251,111	1,192,070	1,112,305
377	Gen'l Office Equipt	255,469	255,469	255,469
378	Other General Land	.....	.....	.....
379	Other General Structures	348,311	348,311	348,311
381	Gen'l Shops Equipt	3,198	3,198	3,198
382	Gen'l Stores Equipt	59,064	59,064	59,064
383	Gen'l Garage Equipt	640,650	640,650	640,650
384	Gen'l Constr. Equipt	128,161	128,161	128,161
385	Gen'l Commun. Equipt	45,156	45,156	45,156
386	Gen'l Laboratory Equipt	.....	.....	.....
387	Misc. Gen'l Equipt	.....	.....	.....
	Total	2,731,120	2,672,079	2,592,314
	Total Tangible Capital	58,985,602	58,926,561	58,846,796
	Total Capital	59,413,008	59,353,967	59,274,202
	Intangible & Land	4,120,597	4,120,597	4,120,597
	Total Capital less Intang. & Land.	55,292,411	55,233,370	55,153,605
	Overheads	3,317,545	6,213,754	11,935,240
	Total Capital Inc. Overheads	62,730,553	65,567,721	71,209,442

C.R.C. No.	Account	Reproduction Cost New—One-day, Dec. 31, 1929 6% O.H. B-12	11.25% O.H. B-13	21.65% O.H. B-14
	Total Capital less Intang & land.	55,292,411	55,233,370	55,153,605
	Addition a/c Wrought Iron....	1,388,664	1,388,664	1,388,664
	Total.....	56,681,075	56,622,034	56,542,269
	Overheads.....	3,400,864	6,369,979	12,235,747
	Total Capital with Wrought Iron Including Overheads....	64,202,536	67,112,610	72,898,613

[fol. 348] Table No. 4

Summary of Reproduction Cost New as of Dec. 31, 1929, Using Unit Costs as of June 15, 1930

C.R.C. No.	Account	Reproduction Cost New—One-Day, June 15, 1930 6% O.H. B-15	11.25% O.H. B-16	21.64% O.H. B-17
	Intangible Capital			
301	Organization.....	415,000	415,000	415,000
302	Franchises.....	12,406	12,406	12,406
303	Miscellaneous.....	.....	.....	.....
	Total Intangibles.....	427,406	427,406	427,406
	Land.....	3,693,191	3,693,191	3,693,191
	Total Land & Intangibles	4,120,597	4,120,597	4,120,597
	Tangible Capital			
	Production:			
311	Land.....	.....	.....	.....
312	Structures.....	1,354,711	1,354,711	1,354,711
313	Boiler Plant Equipt.....	1,282,141	1,282,141	1,282,141
...	Gas Generators.....	1,854,802	1,854,802	1,854,802
...	Purification Apparatus.....	1,478,982	1,478,982	1,478,982
...	Main Pipe Lines.....	1,863,156	1,863,156	1,863,156
...	Accessory Equipt.....	3,313,742	3,313,742	3,313,742
315	Gas Storage Equipt.....	2,366,438	2,366,438	2,366,438
316	Misc. Prod. Equipt.....	191,636	191,636	191,636
317	By-Products Structures.....	189,988	189,988	189,988
...	" " Equipt.....	1,118,093	1,118,093	1,118,093
	Total Production.....	15,013,689	15,013,689	15,013,689
	Distribution:			
351	Land.....	.....	.....	.....
352	Structures.....	515,044	515,044	515,044
353	Distribution Station Equipt....	401,474	401,474	401,474
354	" Storage "	2,616,202	2,616,202	2,616,202
355	" Mains.....	20,293,465	20,293,465	20,293,465
356	Dist. Regulators & Meters.....	272,302	272,302	272,302
357	Services.....	7,383,501	7,383,501	7,383,501
358	Consumers' Meters.....	4,898,380	4,898,380	4,898,380
...	" Regulators.....	519,703	519,703	519,703

C.R.C. No.	Account	Reproduction Cost New—One-Day, June 15, 1930 6% O.H. B-15	11.25% O.H. B-16	21.64% O.H. B-17
360	Instal. Consumers' Premises	13,497	13,497	13,497
361	Misc. Distribution Equipt.	212,019	212,019	212,019
	Total Distribution	37,125,587	37,125,587	37,125,587
	General:			
375	Gen'l Office Land	.....	.....	.....
376	" " Structures	1,251,111	1,192,070	1,112,305
377	" " Equipt.	255,469	255,469	255,469
378	Other Gen'l Land	.....	.....	.....
379	" " Structures	348,311	348,311	348,311
381	Gen'l Shops Equipt.	3,198	3,198	3,198
382	" Stores "	59,064	59,064	59,064
383	" Garage "	640,650	640,650	640,650
384	" Constr. Equipt.	128,161	128,161	128,161
385	" Commun. Equipt.	45,156	45,156	45,156
386	" Laboratory Equipt.	.....	.....	.....
387	Misc. General	.....	.....	.....
	Total General	2,731,120	2,672,079	2,592,314
	Total Tangible Capital	58,563,587	58,504,546	58,424,781
	Total Capital	58,990,993	58,931,952	58,852,187
	Intangibles & Land	4,120,597	4,120,597	4,120,597
	Total Capital Less Intang. and Land	54,870,396	54,811,355	54,731,590
	Overheads	3,292,224	6,166,277	11,843,916
	Total Capital Inclg. O.H.	62,283,217	65,098,229	70,696,103
		B-18	B-19	B-20
	Total Capital less Intang. & Land	54,870,396	54,811,355	54,731,590
	Addition a/c Wrought Iron	1,456,614	1,456,614	1,456,614
	Total	56,327,010	56,267,969	56,188,204
	Overheads	3,379,621	6,330,147	12,159,127
	Total Cap. with Wrought Iron Incl. O. H.	63,827,228	66,718,713	72,467,928

[fol. 349] This exhibit was prepared to determine historical reproduction cost and reproduction cost new for rate making purposes. Historical reproduction cost is defined as the fair market value of the Company's lands as of valuation date, and for all other properties, either the actual cost, if reasonable and ascertainable, as of the time of acquisition or construction, or the estimated amount of money reasonably required to reproduce the various units of properties existing on the valuation date in the same condition as when they were acquired or installed by the Company, at price levels and under conditions effective as of the respective dates of acquisition or installation.

Two amounts have been determined under this definition. The first amount reflects the use of 6 per cent to cover general overheads, being the percentage charged by the Company to capital account during the years 1913 to 1929, inclusive, by the use of which method the total historical cost amounts to $58,399,353 (Item A-1). The other historical reproduction cost value (Item A-2) is based upon the use of 11¼ per cent for general overheads, which is the percentage which properly could have been charged to capital account for such purpose if the corresponding operating expense charges were properly made. By this method the total historical cost is $61,019,662.

Reproduction cost new is defined as the fair market value of lands as of the valuation date, and for all other properties the estimated amount of money reasonably required to reproduce new the various units of property existing on the valuation date, assuming construction methods similar [fol. 350] to those followed by the Company in the actual construction of the properties and the average unit costs of construction or acquisition during the 4-year period January 1, 1926 to December 31, 1929.

We have been unable to check or determine the exact amount of wrought iron pipe in the system, and in Exhibit 52 each reproduction cost new estimate was set up on alternative bases, first assuming that all the threaded and coupled pipe would be reproduced as steel pipe, and second, assuming that all of the ¾-inch to 12-inch threaded and coupled pipe purchased prior to December 31, 1913 would be reproduced as genuine wrought iron pipe.

The reproduction cost new estimates have been made upon the basis of the historical 6 per cent overheads and with 11¼ per cent overheads, also on the basis of overheads which would be incurred on a reconstruction program which, for the 4-year average pricing period, amount to 22.32 per cent. Reproduction cost new estimates have also been made on a one-day pricing period as of December 31, 1929. The inventory quantities are the same as for the four-year price estimates, but overheads are reduced to 21.64 per cent due to a reduction in the estimated cost of money from 6.9 per cent to 6.1 per cent. Estimates have also been made for reproduction cost new using one-day pricing period as of June 15, 1930, overheads being the same as for December 31, 1929 estimate.

Under the definitions given the sums shown in Exhibit 52 represent my opinion as to the values, under the various methods used, of the properties of Los Angeles Gas and Electric Corporation.

[fol. 351] Thereupon the Commission offered and there was admitted in evidence Commission's Exhibit No. 53, which is in the following form:

[fol. 352]

EXHIBIT 53

California Railroad Commission, Engineering Department, Valuation Division

Comparison of L.A.G. & E. Corp. Historical Reproduction Cost, Exhibit No. 29, with C.R.C. Historical Reproduction Cost

Acct. C.R.C.	No. Corp.	Description	L.A.G. & E. Corp. Including 14.48% O.H.	L.A.G. & E. Corp. Excluding overhead	C.R.C. excluding overhead	Differences Company exceeds	Differences C.R.C. exceeds
		Preliminary Capital:					
301	...	Organization	$365,529	$365,529	$365,529	.....	.....
302	...	Franchises	12,406	12,406	12,406	.....	.....
		Total Preliminary Capital	$377,935	$377,935	$377,935	.....	.....
		Production:					
311	237	Land	1,699,345	1,699,345	1,657,335	$42,010	.....
312	240	Structures	1,604,861	1,401,870	1,401,870	.....	.....
313	241	Boiler Plant Equipment	1,290,740	1,127,481	1,127,481	.....	.....
314	242	Gas Generators	2,081,402	1,818,136	1,818,136	.....	.....
	243	Purification Apparatus	1,464,817	1,279,540	1,279,540	.....	.....
	244	Main Pipe Lines	2,101,794	1,835,949	1,835,949	.....	.....
	245	Accessory Equipment	3,523,257	3,077,618	3,077,618	.....	.....
315	246	Gas Storage Equipment	2,557,828	2,234,301	2,234,301	.....	.....
316	247	Misc. Production Equipment	205,180	179,228	179,228	.....	.....
317	248	By-Products Structures	232,128	202,767	202,767	.....	.....
	249	" Equipment	1,313,639	1,147,483	1,147,483	.....	.....
		Total Production	$18,074,991	$16,003,718	$15,961,708	$42,010	.....

		Distribution:					
351	267	Land	$1,231,441	$1,231,441	$1,107,044	$124,397	.....
353	271	Distr. Station Equipment	452,876	395,594	395,594	.....	.....
352	270	Structures	572,582	500,159	500,159	.....	.....
354	272	Distr. Storage Equipment	2,753,300	2,405,049	2,405,049	.....	.....
355	273	Distr. Mains	21,360,310	18,658,552	18,535,428	123,124	.....
356	274	Distr. Reg. & Meters	318,091	277,857	274,154	3,703	.....
357	275	Services	7,979,559	6,970,265	6,625,147	345,118	.....
358	276	Consumers' Meters	5,319,436	4,646,607	4,657,307	.....	.....
	277	" Regulators	592,495	517,553	508,514	9,039	$10,700
360	278	Install. Cons. Prem.	15,977	13,956	13,967	.....	.....
361	279	Misc. Distr. Equipment	241,775	211,194	211,194	.....	11
		Total Distribution	$40,837,842	$35,828,227	$35,233,557	$605,361	$10,711
		General (71.9%):					
375	350	General Office Land	388,260	388,260	928,812	*33,772	.....
376	354	" " Structures	1,465,860	1,280,451	1,342,394	.....	61,943
377	360	" " Equipment	305,007	266,428	266,428	.....	.....
378	351	Other General Land	574,324	574,324	.....	.....	.....
379	355	" " Structures	406,071	354,709	354,709	.....	.....
381	361	General Shops Equipment	2,970	2,594	2,594	.....	.....
382	362	" Stores "	67,567	59,021	59,021	.....	.....
383	364	" Garage "	713,364	623,134	623,134	.....	.....
384	365	" Constr. "	147,361	128,722	128,722	.....	.....
385	...	" Commun. "	51,694	45,156	45,156	.....	.....
		Total General	$4,122,478	$3,722,799	$3,750,970	$33,772	$61,943
		Total physical property	$63,413,246	$55,932,679	$55,324,110	$681,163	$72,654

* Including difference in Acct. 378 Other General Land.

[fol. 353]

EXHIBIT 53—Continued

Comparison of L.A.G. & E. Corp. Reproduction Cost New as of January 1, 1930, Exhibit No. 32, with C.R.C. Reproduction Cost New as of December 31, 1929

Acct. C.R.C.	No. corp.	Description	L.A.G. & E. corp. Including 24.27% O.H.	L.A.G. & E. corp. Excluding overhead	C.R.C., excluding overhead	Difference Company exceeds	Difference C.R.C. exceeds
		Preliminary Capital:					
301	...	Organization	$819,375	$819,375	$415,000	$404,375	.....
302	...	Franchises	12,406	12,406	12,406	.....	.....
		Total Preliminary Capital	$831,781	$831,781	$427,406	$404,375	.....
		Production:					
311	237	Land	2,111,776	1,699,345	1,657,335	42,010	.....
312	240	Structures	1,710,669	1,376,574	1,354,711	21,863	.....
313	241	Boiler Plant Equipment	1,593,317	1,282,141	1,282,141	.....	.....
314	242	Gas Generators	2,304,962	1,854,802	1,854,802	.....	.....
	243	Purification App.	1,837,931	1,478,982	1,478,982	.....	.....
	244	Main Pipe Lines	2,315,344	1,863,156	1,863,156	.....	.....
	245	Accessory Equipment	4,117,987	3,313,742	3,313,742	.....	.....
315	246	Gas Storage Equipment	2,959,601	2,381,589	2,366,438	15,151	.....
316	247	Misc. Prod. Equipment	238,146	191,636	191,636	.....	.....
317	248	By-Products Struct.	240,215	193,301	189,988	3,313	.....
	249	By-Products Equipt.	1,389,454	1,118,093	1,118,093	.....	.....
		Total Production	$20,819,402	$16,753,361	$16,671,024	$82,337	.....

		Distribution:					
351	267	Land	$1,530,312	$1,231,441	$1,107,044	$124,397	.....
352	270	Structures	649,370	522,548	515,044	7,504	.....
353	271	Distr. Station Equipment	498,912	401,474	401,474	.....	.....
354	272	" Storage "	3,282,004	2,641,027	2,616,202	24,825	.....
355	273	" Mains	27,217,755	21,902,112	20,583,634	1,318,478	.....
356	274	" Regs. & Meters	342,686	275,759	272,302	3,457	.....
357	276	Services	10,752,021	8,652,145	7,515,107	1,137,038	.....
358	276	Cons. Meters	6,209,334	4,996,648	4,898,380	98,268	.....
	277	" Regulators	649,948	523,013	519,703	3,310	.....
360	278	Install. Cons. Premises	17,114	13,772	13,737	35	.....
361	279	Misc. Distr. Equipt	263,476	212,019	212,019	.....	.....
		Total Distribution	$51,412,932	$41,371,958	$38,654,646	$2,717,312	.....
		General:					
375	350	Gen'l Office Land	482,491	388,260	928,812	33,772*	.....
376	354	" " Struct	1,482,712	1,193,138	1,251,111	.....	$57,973
377	360	" " Equipt	317,471	255,469	255,469	.....	.....
378	351	Other Gen'l Land	713,712	574,324	.....	.....	.....
379	355	" " Struct	437,309	351,902	348,311	3,591	.....
381	361	Gen'l Shops Equipt	3,974	3,198	3,198	.....	.....
382	362	" Stores Equipt	73,399	59,064	59,064	.....	.....
383	363	" Stable Equipt	.....	.....	.....	.....	.....
	364	" Garage Equipt	796,136	640,650	640,650	.....	.....
384	365	" Constr. Equipt	159,266	128,161	128,161	.....	.....
385	...	" Commun. Equipt	56,115	45,156	45,156	.....	.....
386	...	" Laboratory Equipt	.....	.....	.....	.....	.....
387	367	Misc. Gen'l Equipt	.....	.....	.....	.....	.....
		Total General	$4,522,585	$3,639,322	$3,659,932	$37,363	$57,973
		Total physical property	$77,586,700	$62,596,422	$59,413,008	$3,241,387	$57,973

* Including difference in Acct. 378—Other Gen'l Land.

[fol. 354] The difference between the historical valuations of the Commission and the Company, apart from overheads, is approximately 1 per cent, or $609,509. Land items account for $200,179 of this difference; the values shown for lands are those testified to by Mr. McAuliffe. The difference of $123,124 in account 355 (distribution mains) is due entirely to difference in method in compiling the basic figures as to quantities, material and labor prices. In account 357 (services), we have excluded $244,330, which is the amount paid by consumers from July 1, 1922, to December 31, 1929, for pipe lengths on consumers' premises in excess of 50 feet from the property line. It represents a part of the service connection on the consumers' premises in addition to what the Company pays for. They are maintained and repaired by the Company. I have made no investigation and do not know whether they are replaced by the Company.

The application form under which these pipes are laid reads:

"I hereby request the Los Angeles Gas and Electric Corporation to introduce service pipe into the premises numbered —— street, located between —— and —— streets, of which I am the —— in accordance with its rules and I hereby agree that such service pipes will remain the property of said corporation and may be removed by it should it cease to supply gas to said premises. Rules for service: Gas service up to 50 feet in length measured from the property line to the meter, which must be set in front of buildings, is laid free to the consumer. All additional pipe required to reach point where meter is to be set is charged to consumer. This pipe must be laid by said corporation."

The balance of the difference in account 357 is due to different methods of computing the account.

While account 376 (general office structures) apparently [fol. 355] exceeds the Company valuation by $61,943, the comparison is not entirely correct, because we have, like the Company, taken into consideration architects and contractors' fees, reflected in overhead items, and by applying our overhead percentages have attempted to reach the actual historical cost of the property.

The difference in the reproduction new value of the Commission and the Company apart from overheads, is approximately 5 per cent. The land accounts reflect the same difference as in the historical valuation. In account 301 (organization) our estimate is $404,375 less than that of the Company. We have followed our usual practice of allowing two-thirds of 1 per cent, on a base of approximately $62,000,000.

The difference in account 312 (structures) is due to the use by the Commission of 53 cents per sack for cement instead of 76 cents, as used by the Company. Since October, 1929, the Company has actually paid 53 cents per sack for cement purchased in carload lots. This also accounts for the differences in account 315 (gas storage equipment), 317 (by-product structures), 352 (structures), and 354 (distribution storage equipment).

Except for approximately $23,000, the difference of $1,318,478 in account 355 (distribution mains) is due entirely to wrought iron pipe prices. As stated in Exhibit 52, we have prepared reproduction cost studies on two bases, one including the reproduction of the so-called wrought iron pipe as genuine wrought iron pipe, and in the other reproducing the so-called wrought iron pipe with steel pipe. My comparison is with the steel pipe estimate. Quantities are substantially the same as those used by the [fol. 356] Company.

In account 357 (services) is shown a difference of $1,137,038. Of this $244,330 is due to the omission by the Commission of excess service lengths, already discussed. An additional $317,450 is due to the estimate of steel pipe rather than genuine wrought iron pipe. Material indirect charges (primarily valves and fittings) account for an additional $182,000 difference. We have allowed 53.95 per cent for material indirects and have applied that percentage to the basic price of steel pipe instead of wrought iron pipe. The Company has allowed for transportation of men and materials, 12 per cent, and we have used 7½ per cent, which difference amounts to $171,000. Our basic price for pipe is 6½ per cent lower than that of the Company, accounting for $20,000 and leaving approximately $200,000 due to differences in method. Competent valuation engineers, in analyzing this account, might differ in respect of the final result, although both had followed accepted methods. Dif-

ferent methods may be followed and it is not possible to say that either one is wrong. I think they are both all right for a rate proceeding.

The difference of $98,368 in account 358 (consumers' meters), is due almost entirely to difference in the estimated cost of transportation of men and materials. On an historical basis such transportation amounted to 62½ per cent of the labor cost, and in the reproduction estimate we have allowed but 20 per cent on the theory that one truck could take care of 3 meter setters, averaging 7 meters per day each.

The difference of $57,973 in the general office structure [fol. 357] is also due to different methods in estimating the cost. The reproduction new estimate is 6.8 per cent less than the historical cost of this building.

Cross-examination:

Assuming that there is no property in existence, that reproduction new means reproducing a property, it is my opinion, as an engineer, that the reproduction cost new of the physical property as of January 31, 1929, is $73,637,542, the amount shown in Column B-5 of Exhibit 52. This figure does not include any allowance for going value except as it may be reflected in historical cost. I have made no study of going value and do not know whether this property has a going value. I do not know what amount is so represented in the figure I have just named and have not tried to determine it, nor, so far as I know, has any representative of the engineering or valuation departments of the Commission attempted to determine going value. There is no separate figure included for such going value and no attempt has been made by me or my department to measure a going value of the property in this case.

Redirect-examination:

In my opinion the reproduction cost new of the physical properties as of December 31, 1929, is $71,805,296 rather than $73,637,542 previously mentioned in my testimony. The amount is shown in the same column, 5-B, and the difference is due to the inclusion of wrought iron pipe. Personally I would not reproduce the wrought iron pipe, but would follow the policy of the Company since the year 1913

and use steel pipe. I do not feel that on a reproduction estimate it is necessary to reproduce exactly in kind.

[fol. 358] Roy A. Wehe was called as a witness on behalf of the Commission and, having been duly sworn, testified as follows:

I am an assistant engineer in the Valuation Division of the Commission; my duties are to assist in the preparation of valuations, especially in respect to depreciation; I entered the service of the Commission in September, 1923, and have worked on practically all cases in the Valuation Division since that time. Prior to my employment by the Commission I worked one year with Southern California Edison Company as Field Cost Engineer, and during my schooling I served as a mechanic in machine shop practice; my education consists of a four-year course in electrical engineering at the University of North Dakota, graduating in 1918, and two years at the Massachusetts Institute of Technology in general engineering, general economics, graduating in 1921; I also had some training at the Stevens Institute of Technology in steam-engineering while I was in the Navy.

I have made a study of the general overheads as charged and as chargeable by the Los Angeles Gas and Electric Corporation. For the period 1913 to 1929, inclusive, I found that the Company had actually charged 5.98 per cent for general overheads, except $8,746,611.80 of capital items were charged with no overheads by the Company, and are not included in the 5.98 per cent. In general the amount excluded is the work done under contracts, such as the general office building. The actual amount charged on the books of the Company is the contract price, including architects' fees, contractors' fees and contractors' profit [fol. 359] and interest, but no additional charge was made for supervision or legal expense. We have used 6 per cent as a round figure. I have also made a study of the amounts which the Company might in my judgment have charged, and from a rather careful and detailed analysis over this period of 17 years, it is my conclusion that an overhead in the amount of 11.25 per cent might have reasonably been

charged to capital. These are the amounts used by Mr. Dufour in Exhibit 52.

Thereupon the Commission offered and there was admitted in evidence Commission's Exhibit No. 54, which is in the following form:

[fol. 360] EXHIBIT 54

General Overheads, Historical Basis, Los Angeles Gas and Electric Corporation

Purpose of Study:

To determine the extent and magnitude of overhead construction costs as incurred by the Los Angeles Gas and Electric Corporation and as set forth in the uniform system of accounts for Gas Corporations of this class by the Commission.

These overhead construction costs are listed in the uniform system of accounts as follows (company account numbers are added for reference):

C. R. C.	Company New	Company Old	Descriptive
391	370	168	Engineering and superintendence during construction.
392	371	169	Law expenditures during construction.
393	372	170	Injuries and damages during construction.
394	373	171	Taxes during construction.
395	374	172	Interest during construction.
396	375	173	Miscellaneous construction expenditures.

Scope of Study:

This report will embrace the result of studies into—

1. Overheads as cleared to construction and, as revealed by the corporation's records.

2. Overheads believed reasonably chargeable to construction but not necessarily so charged by the corporation. In all cases, the expenditure has actually been made either as an overhead expense to construction or operation, or as a direct expense to either of these two.

3. This study has not gone into the question as to whether the expenditures were economically made; it has been assumed that they were necessary and that full value has been or will be received from them.

Corporation Practice:

Overheads are cleared monthly into the above capital accounts and these into a control account (369). These overhead charges are not distributed to the primary fixed capital accounts until the end of the year. On a work sheet, form No. 39, net additions and betterments are tabulated [fol. 361] by accounts by kind of capital; that is, for all gas, electric and general capital accounts. To these net A's and B's are added, the year's retirements, thus giving the gross A's and B's for the year. From these gross A's and B's are deducted all intangibles, landed capital and other special capital items. This last includes non-landed capital which is not to receive the regular corporation overhead because the construction was executed by outside parties. The total of the remaining gross A's and B's constitute the base capital on which the gross total construction overheads are to be distributed. Before determining the relationship that the overheads cleared to the control account 369 bears to this base capital, certain deductions are made from the overheads. Interest during construction and taxes included, which are for landed capital, are deducted. The resulting overhead percentage is then applied to each non-landed capital account throughout the gas, electric and general capital groups and the year's undistributed construction overhead thus becomes distributed. It is apparent that all classes and groups of capital receive the same percentage of overhead.

Method of Procedure:

The company, through its rate engineer, Mr. Evans, worked out an extensive and creditable study into the corporation overheads. This was made available to us and it materially assisted and reduced the time in our survey. A careful study of his report showed it to be essentially correct as to methods and principle, and we have used it as a guide for the development of our work. This does not mean that differences do not exist because a study of the two reports would show a marked difference both as to development and results. This study covers a longer period of company history and the results are based upon rather careful and complete analysis of much of the supporting detail.

Results of This Study:

Overhead Construction Costs as Charged

Period	Capital	Overhead	%
1913–1928, incl.	$67,099,592	$3,834,463	5.71
1913–1929, incl.	70,787,389	4,234,651	5.98

Overhead Construction Costs That Might Properly Have Been Charged

	C.R.C.	Company
Engineering and Superintendence	4.25	6.00%
Legal Expense	.....	0.75
Injuries and Damages }	3.75	1.00
Taxes }		0.25
Misc. Construction Expenditures	.....	2.00
	8.00	10.00
Misc. and Contingencies	.50	.50
	8.50	10.50
Interest during construction—compounded	1.90	2.80
	10.40	13.30
Interest during construction before compounding	1.75	2.54

[fol. 362] Overhead as Charged—Discussion:

This part will be developed by briefly noting the exceptions and unusual conditions on these overheads as charged so that they may be intelligently used in our appraisal.

No charges have been made for legal expense under account 392 (Co. 371), and their overheads do not provide for this item.

All taxes during construction are not cleared to this construction overhead account. The corporation follows the instructions in our classification of accounts when it states that where expenditures "can be charged directly to the account for which incurred, they shall be so charged." The company followed this practice in the Seal Beach and General Office Building properties. When we determined the cost of the General Office Building, the tax charge should be left in. But, in this respect, care should be used to see that the taxes paid on the land are excluded. The total tax bill may be included in the building account.

A study of the 1922-1929 period reveals that practically all taxes paid and charged to overhead are on land. Since 1925, these land tax overheads have been deducted from general overheads so the percentages do not reflect these land taxes. During the earlier period, no attempt was made to pull these out so the overhead percentages reflect a land tax charge in the amount of about $25,000.

During the 1913-1919 period the corporation did not charge interest during construction but did credit this account with cash discounts taken on construction materials and also with income received from miscellaneous rents.

The credits for this period amounted to $37,708.04. From 1921, both charges and credits were made. Credits to interest during construction for the 1913-1929 period amount to $366,643.61. From 1924, to date, all interest charges on land have been excluded in computing the overhead percentages. These constitute the principal part of the total interest charge as interest is computed on lands held for future use.

Interest during construction, for special construction properties, such as Seal Beach and the General Office Building, have been pulled and charged directly to the primary account.

The Corporation uses considerable care in their computation of interest during construction. This is especially so in the last few years. No arbitrary rule is followed [fol. 363] but the actual amount in the process of construction are used. The company is now charging 6% for the cost of money. There are certain classes of property that receive no interest during construction, such as meters and regulars. These are charged into capital upon receipt.

The interest during construction charges do not reflect any charge for interest between the period of financing and the period of use of the capital.

Development Overheads as Charged:

The following two tabulations show the base figuring entering into the overheads as charged:

[fol. 364]

Development of Construction Overheads as Charged

	Gross A & B exclusive of land & intangibles (1)	Gross A & B to which regular overhead add. (2)	Amount of overhead (3)	Tool & store exp. in overhead (4)	Net overhead (5)	% Net overhead (6)
1913	$1,129,818.88	$1,129,818.88	$41,124.82	$19,639.31	$21,485.51	1.90
1914	711,497.58	711,497.58	43,999.30	18,078.16	25,921.14	3.65
1915	501,165.25	501,165.25	36,990.06	14,233.70	22,756.36	4.54
1916	631,500.39	631,500.39	35,779.10	16,392.01	19,387.09	3.07
1917	759,757.90	759,757.90	35,991.69	17,455.35	18,536.34	2.44
1918	167,415.88	167,415.88	22,540.18	11,172.88	11,367.30	6.79
1919	993,168.44	993,168.44	32,678.19	18,833.65	13,844.54	1.39
1920	1,926,416.06	1,926,416.06	61,161.98	25,451.96	35,710.02	1.85
1921	7,927,857.51	7,927,857.51	347,670.03	90,303.79	257,366.24	3.25
1922	10,488,687.05	10,488,687.05	511,399.63	117,058.88	394,340.75	3.76
1923	10,766,850.43	10,766,850.43	551,138.03	120,292.20	430,845.83	4.00
1924	13,366,528.25	9,634,197.57	682,343.15	134,027.69	548,315.46	5.69
1925	10,182,790.39	7,393,178.06	715,711.50	147,211.92	568,499.58	7.69
1926	4,624,621.43	4,586,991.42	590,452.53	118,926.31	471,526.22	10.28
1927	5,326,909.88	5,242,181.46	593,962.63	132,343.42	461,619.21	8.81
1928	6,340,836.36	4,238,908.52	652,304.42	119,362.82	532,941.50	12.57
Total	$75,845,821.68	$67,099,592.40	$4,955,247.24	$1,120,784.05	$3,834,463.19	5.71
1929	3,688,179.52	3,687,797.00	463,750.71	63,563.13	400,187.58	10.85
	$79,534,001.20	$70,787,389.40	$5,418,997.95	$1,184,347.18	$4,234,650.77	5.98

Prior to 1924, it is possible that column (2) figures reflect certain deductions so it is possible that Gross A's and B's in column (1) are understated—this is not understood to be so, though no careful study has been made to ascertain the facts.

[fol. 365]

Overheads Construction Charges by Account

Account, C.R.C.	Number company New	Number company Old	1913	1914	1915	1916	1917	1918
391	370	168	$18,811.78	$16,107.01	$13,314.47	$14,528.36	$12,694.04	$7,597.45
392	371	169	9.00	.....	.....	.....	.....	.....
393	372	170	2,379.99	3,652.18	3,929.33	2,550.59	2,927.46	1,399.23
394	373	171	.....	.....	.....	.....	.....	.....
395	374	172	7,520.43*	3,284.86*	2,342.63*	4,205.34*	4,687.90*	717.89*
396	375	167	27,444.48	27,524.97	22,088.89	22,905.49	25,058.09	14,261.39
Total Overheads			$41,124.82	$43,999.30	$36,990.06	$35,779.10	$35,991.69	$22,540.18

Account, C.R.C.	Number company New	Number company Old	1919	1920	1921	1922	1923	1924
391	370	168	$13,379.21	$30,991.24	$149,052.47	$246,494.43	$308,945.09	$331,440.28
392	371	169	.....	.....	.....	.....	.....	.....
393	372	170	3,151.98	4,540.13	24,142.72	31,502.92	26,736.38	46,144.63
394	373	171	.....	.....	.....	3,790.07	5,762.71	7,742.63
395	374	172	6,105.32*	8,844.12*	64,325.56	77,290.05	64,619.92	206,715.29
396	375	167	22,252.32	34,474.73	126,177.81	167,644.88	175,998.52	196,247.50
			$32,678.19	$61,161.98	$363,698.56	$526,722.35	$582,062.62	$788,290.33
Deductions—mostly int. on lands			.....	.....	16,028.53	15,322.72	30,924.59	105,947.18
Net Overhead			.....	.....	$347,670.03	$511,399.63	$551,138.03	$682,343.15

Account, C.R.C.	Number company New	Number company Old	1925	1926	1927	1928	1929	Total
391	370	168	$353,553.21	$265,221.94	$293,302.86	$332,580.21	$204,233.70	$2,612,247.75
393	372	170	61,236.00	45,692.44	36,513.11	42,119.85	23,999.42	362,618.36
394	373	171	13,200.93	6,013.55	6,241.56	13,428.23	20,073.79	76,253.47
395	374	172	236,038.22	97,396.93	106,764.04	145,863.37	122,303.18	1,083,608.07
396	375	167	202,831.38	207,905.93	222,497.43	220,769.39	181,924.54	1,898,016.74
			$866,859.74	$622,230.79	$665,319.00	$754,761.05	$552,534.63	$6,032,744.39
Deductions			151,148.24	31,778.26	71,356.37	102,456.63	88,783.92	613,746.44
Net Overhead			$715,711.50	$590,452.53	$593,962.63	$652,304.42	$463,750.71	$5,418,997.95

*Credits.

[fol. 366] Corrected Corporation Overheads:

General.—This part of the overhead study constitutes the major portion of this investigation. An examination of this work will show that conclusions have only been reached after quite an extensive analysis of underlying detail. The conclusions are, therefore, not the result of flights of the imagination, but have been developed largely upon facts as disclosed by corporation practice. While it has been the constant aim to reduce uncertainties as much as possible, the very nature of "overheads" makes it necessary to use approximate methods and judgment throughout. It has not been the aim or purpose to develop the lowest possible overhead, neither has it been the purpose to see how large a figure could be developed—rather, it has been the purpose to develop a fair overhead. An examination of the detail will disclose that a rather liberal and broad viewpoint has been held to throughout.

After a careful consideration, it has been decided to include most of the basic material so that the study in itself will provide complete support for the results obtained.

Engineering and Superintendence:

Organization and Flow of Charges under Company Practice

The corporation maintains what it designates as "The Engineering Department." This is a complete unit just as the Gas Distribution or Gas Production Departments are. It has its own budget for the year, its own payroll and its staff of clerical help to maintain its being. The Manager of Construction, who is a general officer, is responsible for the functioning of this department. Under the Manager of Construction is the Construction Engineer, who is directly in charge of the construction work and, under the Construction Engineer is an Assistant Engineer. There are no other engineers in the engineering department, except one in the drafting room. The drafting room is in charge of a Chief Draftsman who reports to the Manager of Construction. The Manager of Construction, being a general officer, charges none of his time to engineering, but to "general" or miscellaneous construction expenditures; that is, the part that goes to construction.

The Engineering Department might better be named the "Construction Department." Its principal work is construction. In theory, it is in charge of all construction work done by the corporation. In practice, it appears that it is in charge and executes only special types of construction. For example, it does not lay gas mains normally, but it likely would build manholes and vaults for the Gas Distribution Department. If any new types of construction come up in the Gas Departments, the Engineering Department would likely be called in to pass on it, if not to do the work. It does all building construction not let by contract. Its own payroll then is made up of all types of labor from the day laborer to certain foreman and clerical help. Strange as it may seem, the Construction Engineer, his Assistant, a Chief Clerk, two Foremen, [fol. 367] a Draftsman and another Clerk are not carried on the engineering payroll, but on the general office payroll. The personnel of the drafting room is likewise carried on the general payroll. The payroll of this personnel, carried in the general payroll, is all cleared to engineering—company account 484. From account 484, it is distributed between operation and construction.

It likewise is a fact that the total charged to the engineering payroll is not all engineering and only a portion is charged to account 484. In fact, the engineering payroll does not contribute much more than 10% of the engineering charges to account 370.

The real engineers of the corporation are classed as general officers and none of their time is charged to 484 or engineering directly. Their time, which is considered a proper charge against construction, is cleared directly to Account 375—Miscellaneous Construction Expenditures.

So far, only two sources of engineering expense have been mentioned—that from the engineering payroll, and that engineering personnel in the engineering department but carried on the general payroll.

Engineering expense- arise in other departments, such as the Gas Distributing, Gas Production and Electric Department.

[fol. 368] Development of Engineering Chargeable to Capital:

(Not what the corporation actually charged, but what they might have charged.)

Summary of Development:

Period 1917 to 1928, Inclusive: Gross additions to Gas Capital, exclusive of overheads and general capital, $39,249,451.

Engineering Chargeable to Overhead Construction:

1. From Account 484	$1,035,322
2. Cleared directly through voucher	119,030
3. Additive amounts from:	
(a) Gas Distribution Payrolls	201,980
(b) Gas Production Payrolls	25,000
(c) Maps and Records	21,724
(d) Misc. Supplies and Expense—Gas Distribution	140,400
(e) Misc. Supplies and Expense—Gas Production	18,000
(f) Maintenance of distribution structures	4,500
Total	$1,566,156

Engineering overhead construction percentage, 3.99%.

The remaining items of indirect construction costs (overheads) were analyzed in a similar manner to the engineering cost above set forth, in support of the conclusion in respect thereof stated under the heading "Results of this Study."

[fol. 369] The overheads which might have been reasonably charged, as used in the Commission's appraisal, are made up as follows:

Engineering and Superintendence	4.59%
Law Expense, Injuries and Damages, and Miscellaneous	3.75
Errors, Omissions and Contingencies	1.00
Subtotal	9.34
Interest During Construction, 1.75%, compounded	1.91
Total Overheads	11.25

In the Company's study of the overheads which should have been charged to capital, the percentage for engineer-

ing and superintendence was determined from the relation of construction to operating payroll for the gas department for the years 1917 to 1928, resulting in a charge of 64.3 per cent of account 484 to capital. After looking into the matter rather carefully it did not seem to me that this split based on payroll was equitable and it was my conclusion that 45 per cent of the engineering charges actually incurred might more reasonably have been charged to construction, instead of 64.3 per cent, as used by the Company in its study. The percentage actually charged on the books was 27 per cent. I made my study upon an analysis of the payroll and of the work performed by the individual men for the month of November, 1928. Just because construction jumps up in one year is no sign, in my opinion, that a greater percentage should be charged to construction. It seems to me that at least 50 per cent of the superintendence should be absorbed [fol. 370] in operating expenses. Interest during construction is based on what the Company charged. I have used the period from 1924 to 1929, inclusive, also considering the year 1922 and 1923. I have limited myself to this period because I did not consider the records complete prior to that period. It is my conclusion that 1-3/4 per cent represented a fair interest during construction as revealed by the Company records.

I made a very detailed and careful study of taxes for the period of 1922 to 1929, inclusive, and found that the taxes paid and capitalized are mostly taxes on land; less than $5,000 was actually paid on depreciable capital. I have made a certain allowance in my general overheads; I have used 3.75 per cent and it actually worked out 3½, but it is not to be concluded I allowed .25 of one per cent for taxes because I have not. Neither taxes nor interest during construction on land are included in the overheads I have allowed.

The figures I have been discussing are supposed to represent the actual historical overheads of this Company and I have not gone outside to find what overheads have been used in other cases. We are fortunate in this case in having the records of the Company available, which are the most complete and reliable I have ever examined. The method of allocation used by the Company in the past has been largely a matter of judgment and the percentages of various accounts charged to capital and operation have varied con-

siderably. From time to time the Company officials look over the relative amounts of operation and construction and arrive at a certain split between the two. The largest single part of this capital expense comes from clearing account 484, and is distributed at the end of the year on the basis of gross additions and betterments, all types of capital, elec- [fol. 371] trical, gas and general capital receiving the same percentage of overheads. At the present time 80 per cent of this account is charged to capital and 20 per cent to operation.

The overheads used in Exhibit 52 in respect of reproduction cost new estimates are those which I recommend and which Mr. Dufour, Mr. Guillou and Mr. Mott (Chief Engineer of the Commission) considered and found reasonable, and in conformity with overheads used by the Commission engineers in prior proceedings affecting the Company. In detail the figures are:

Engineering and Superintendence	6.00%
Law Expense	.75
Injuries and Damages	1.50
Taxes	.25
Administration	3.50
Errors, Omissions and Contingencies	2.00
Subtotal, before Interest during Construction	14.00

Interest during construction was determined from a study made on an assumed five-year construction program, using the first year for the development period. In computing interest during construction the construction program was laid out and it is assumed that as the plant is built it is brought into operation and will be able to earn its normal operating expenses, including fixed charges but not providing for any additional expense that might be incurred during this period of development, such as extra new business and commercial expense, over that actually incurred historically. By earning the fixed charges I mean earning the cost of money used as the basis of computing interest during construction and not necessarily a fair return. The interest charge until the property is capable of earning a return is as much a part of the capital as the capital itself, and interest during construction ought to continue until the

property is earning enough to pay its operating expenses [fol. 372] and at least the full interest charge on capital invested. Any other procedure would be inequitable. The results of the study show that, for money costing 6.9 per cent, interest during construction works out 7.3 and compounding that on other overheads it becomes 8.32; for money costing 6.1 per cent, interest during construction becomes 6.7 and compounded it becomes 7.64 per cent. The figures as to rate of interest were supplied by Mr. Fankhauser and are not the results of my own study.

In my computations I assumed certain percentages of the 1929 revenue as being earned at various stages in the construction of the property, starting with the more congested section in the older part of Los Angeles, so that when the construction period was ended the property had attached the entire 1929 business and revenue. My theory of reproduction is that immediately a portion of the physical property is completed after the initial period required to build a substantial part of the plant, there is attached all the business that was in fact attached to that portion of the property in 1929 and the same revenue that was attached in 1929, when the property was entirely completed, and I have used that theory in working out my construction program and interest during construction. There is quite a spread due to the construction of many items of physical property, such as transmission lines, trunk lines, general overheads and engineering, which must be completed before the property is in a position to attach meters and services.

Thereupon the Commission offered and there was admitted in evidence Commission's Exhibit No. 56, which is in the following form:

[fol. 373] EXHIBIT 56

Historical Reproduction Cost with 6% Overheads

Account		Historical Cost	Depreciation Annuity		
			Life	Rate	Amount
	Intangible Capital				
301	Organization	$365,529	.....	.....	.....
302	Franchises	12,406	.....	.....	.....
303	Misc. Intangible Capital	.....	.....	.....	.....
	Total Intangible	$377,935	.....	.....	.....

	Account	Historical Cost	Depreciation Annuity		
			Life	Rate	Annuity
	Tangible Capital				
	Production:				
311	Land	$1,657,335	.....	.....	.....
312	Structures	1,485,982	33	$.006852	$10,182
313	Boiler Plant Equipment	1,195,130	25	.018227	21,784
314	Production Equipment	8,491,918	19.55	.028359	240,820
315	Storage Equipment	2,368,359	40	.006462	15,304
316	Misc. Prod. Equip.	189,982	20	.027185	5,165
317	By-Prod. Struct. & Equip.	1,431,265	20	.027185	38,909
	Total Production	$16,819,971	.....	.....	$332,164
	Distribution:				
351	Land	$1,107,044	.....	.....	.....
352	Structures	530,169	35	$.008974	$4,758
353	Dist. Station Equip.	419,330	20	.027185	11,399
354	" Storage "	2,549,352	40	.006462	16,474
355	" Mains	19,647,554	28	.014593	286,717
356	District Reg. & Meters	290,603	30	.012649	3,676
357	Services	7,022,656	20	.027185	190,911
358	Consumers' Meters & Reg.	5,475,766	30	.012649	69,263
360	Install. on Cons.' Prem.	14,805	10	.075868	1,123
361	Miscellaneous Dist. Equip.	223,866	10	.075868	16,984
	Total Distribution	$37,281,145	.....	.....	$601,305
	General:				
375	General Office Land	$388,260	.....	.....	.....
376	" " Struct.	1,422,938	45	$.004701	$6,689
377	" " Equip.	282,414	15	.042963	12,133
378	Other Gen. Land	540,522	.....	.....	.....
379	" " Struct.	375,992	45	.004701	1,768
381	Gen. Shops Equip.	2,750	.....	.....	.....
382	" Stores "	62,562	.....	.....	.....
383	" Trans. "	660,522	.....	.....	.....
384	" Constr. "	136,445	.....	.....	.....
385	" Commun."	47,865	15	.042963	2,056
386	" Lab. "	.....	.....	.....	.....
387	Misc. Gen. Equip.	.....	.....	.....	.....
	Total General	$3,920,300	.....	.....	$22,646
	Total Tangible	$58,021,416	.....	.....	$956,115
	Total Capital	$58,399,351	.....	.....	$956,115

[fol. 374] Historical Reproduction Cost with 11.25% Overheads

	Intangible Capital				
301	Organization	$365,529	.....	.....	.....
302	Franchises	12,406	.....	.....	.....
303	Misc. Intangible Capital	.....	.....	.....	.....
	Total Intangible	$377,935	.....	.....	.....
	Tangible Capital				
	Production:				
311	Land	$1,657,335	.....	.....	.....
312	Structures	1,559,580	33	$.006852	$10,686
313	Boiler Plant Equipment	1,254,323	25	.018227	22,863
314	Production Equipment	8,912,508	19.55	.028359	252,748

	Account	Historical Cost	Depreciation Annuity		
			Life	Rate	Amount
315	Storage Equipment	2,485,660	40	.006462	16,062
316	Misc. Prod. Equipment	199,391	20	.027185	5,420
317	By-Prod. Struct. & Equip.	1,502,153	20	.027185	40,836
	Total Production	$17,570,950	.....	.....	$348,615
	Distribution:				
351	Land	$1,107,044	.....	.....	.....
352	Structures	556,427	35	.008974	$4,993
353	Dist. Station Equipment	440,098	20	.027185	11,964
354	Dist. Storage Equipment	2,675,617	40	.006462	17,290
355	Dist. Mains	20,620,664	28	.014593	300,917
356	District Reg. & Meters	304,996	30	.012649	3,858
357	Services	7,370,476	20	.027185	200,366
358	Consumers' Meters & Reg.	5,746,971	30	.012649	72,693
360	Install. on Cons'. Prem.	15,538	10	.075868	1,179
361	Miscellaneous Dist. Equip.	234,953	10	.075868	17,825
	Total Distribution	$39,572,784	.....	.....	$631,085
	General:				
375	General Office Land	$388,260	.....	.....	.....
376	" " Structures	1,422,938	45	.004701	$6,689
377	" " Equip.	296,401	15	.042963	12,734
378	Other Gen. Land	540,552	.....	.....	.....
379	" " Struct.	394,614	45	.004701	1,855
381	Gen Shops Equip.	2,886	.....	.....	.....
382	" Stores "	65,661	.....	.....	.....
383	" Trans. "	693,237	.....	.....	.....
384	" Constr. "	143,203	.....	.....	.....
385	" Commun."	50,236	15	.042963	2,158
386	" Lab. "	.....	.....	.....	.....
387	Misc. Gen. Equip.	.....	.....	.....	.....
	Total General	$3,997,998	.....	.....	$34,520
	Total Tangible	$61,141,722	.....	.....	$1,014,220
	Total Capital	$61,519,657	.....	.....	$1,014,220

[fol. 375]

Reproduction Cost New with 6 Per Cent Overheads

Account		Reproduction cost new	Depreciated repro. cost new		Annuity rate			Annuity amount	
			6 per cent sinking fund	Straight line	Life	6 per cent sinking fund	Straight line	6 per cent sinking fund	Straight line
	Intangible Capital								
301	Organization	$415,000	$415,000	$415,000	.....	.....	.....	.....	.....
302	Franchises	12,406	12,406	12,406	.....	.....	.....	.....	.....
303	Misc. Intangible Capital	.....	.....	.....	.....	.....	.....	.....	.....
	Total Intangible	$427,406	$427,406	$427,406	.....	.....	.....	.....	.....
	Tangible Capital								
	Production:								
311	Land	$1,657,335	$1,657,335	$1,657,335	.....	.....	.....	.....	.....
312	Structures	1,450,353	1,334,325	1,087,766	33	$.030303	$.006852	$9,938	$43,950
313	Boiler Plant Equipment	1,331,888	1,132,104	958,960	25	.018227	.040000	24,276	53,276
314	Production Equipment	9,060,521	7,986,842	7,162,533	19.56	.028307	.051248	256,479	464,331
315	Storage Equipment	2,533,508	2,445,758	2,134,885	40	.006462	.025000	16,372	63,338
316	Misc. Prod. Equip.	203,134	182,820	162,508	20	.027185	.050000	5,522	10,157
317	By-Prod. Struct. & Equip.	1,400,432	1,256,316	1,116,274	20	.027185	.050000	38,071	70,022
	Total Production	$17,637,171	$15,995,500	$14,280,261	.....	.....	.....	$350,658	$705,074
	Distribution:								
351	Land	$1,107,044	$1,107,044	$1,107,044	.....	.....	.....	.....	.....
352	Structures	551,406	525,540	477,270	35	$.008974	$.028571	$4,948	$15,754
353	Dist. Station Equip.	421,308	385,209	345,130	20	.027185	.050000	11,453	21,065
354	" Storage "	2,800,907	2,655,031	2,248,372	40	.006462	.025000	18,099	70,022
355	" Mains	21,925,624	18,856,779	15,277,074	28	.014593	.035714	319,961	783,052
356	District Reg. & Meters	288,640	278,163	268,217	30	.012649	.033333	3,651	9,621
357	Services	7,888,245	6,362,106	5,284,991	20	.027185	.050000	214,442	394,012

358	Consumers' Meters & Reg.	5,807,385	5,211,026	4,916,710	30	.012649	.033333	73,458	193,578
360	Install. on Cons.' Prem.	14,535	12,354	11,628	10	.075868	.100000	1,103	1,454
361	Miscellaneous Dist. Equip.	224,740	197,772	188,782	10	.075868	.100000	17,051	22,474
	Total Distribution	$41,029,834	$35,591,024	$30,125,218				$664,166	$1,511,032
	General:								
375	General Office Land	$388,260	$388,260	$388,260					
376	General Office Structures	1,326,178	1,312,916	1,206,822	45	$.004701	$.022222	$6,234	$29,470
377	General Office Equipment	270,797	243,717	230,178	15	.042963	.066667	11,634	18,053
378	Other Gen. Land	540,552	540,552	540,552					
379	" " Struct.	372,902	354,779	326,552	45	.004701	.022222	1,753	8,287
381	Gen. Shops Equip.	3,390	2,711	2,543					
382	" Stores "	62,608	53,216	50,086					
383	" Trans. "	679,089	389,195	353,086					
384	" Constr. "	135,851	115,473	108,681					
385	" Commun. "	47,865	45,472	43,078	15	.042963	.066667	2,056	3,191
386	" Lab. "								
387	Misc. Gen. Equip.								
	Total General	$3,827,492	$3,446,344	$3,249,838				$21,677	$59,001
	Total Tangible	$62,494,497	$55,032,868	$47,655,317				$1,036,501	$2,275,107
	Total Capital	$62,921,903	$55,460,274	$48,082,723				$1,036,501	$2,275,107
	Allowance for W. I. Pipe	$1,587,787	$1,111,451	$714,504	28	$.014593	$.035714	$23,171	$56,706
	Total Capital Inc. W. I. Pipe	$64,509,690	$56,571,725	$48,797,227				$1,059,672	$2,331,813

[fol. 376] Reproduction Cost New with 11.25% Overheads

Account		Reproduction Cost New	Depreciated repro. cost new		Life	Annuity rate		Annuity amount	
			6 per cent sinking fund	Straight line		6 per cent sinking fund	Straight line	6 per cent sinking fund	Straight line
	Intangible Capital								
301	Organization	$415,000	$415,000	$415,000	.....	.....	.....	.....	.....
302	Franchises	12,406	12,406	12,406	.....	.....	.....	.....	.....
303	Misc. Intangible Capital	.....	.....	.....	.....	.....	.....	.....	.....
	Total Intangible	$427,406	$427,406	$427,406	.....	.....	.....	.....	.....
	Tangible Capital								
	Production:								
311	Land	$1,657,335	$1,657,335	$1,657,335	.....	.....	.....	.....	.....
312	Structures	1,522,187	1,400,412	1,141,641	33	$.006852	$.030303	$10,430	$46,127
313	Boiler Plant Equipment	1,397,854	1,188,176	1,006,455	25	.018227	.040000	25,479	55,914
314	Production Equipment	9,509,273	8,382,417	7,517,282	19.56	.028307	.051248	269,182	487,328
315	Storage Equipment	2,658,988	2,566,892	2,240,622	40	.006462	.025000	17,182	66,475
316	Misc. Prod. Equip.	213,195	191,875	170,556	20	.027185	.050000	5,796	10,660
317	By-Prod. Struct. & Equip.	1,469,793	1,318,539	1,171,562	20	.027185	.050000	39,956	73,490
	Total Production	$18,428,624	$16,705,646	$14,905,453	.....	.....	.....	$368,025	$739,994
	Distribution:								
351	Land	$1,107,044	$1,107,044	$1,107,044	.....	.....	.....	.....	.....
352	Structures	578,716	551,569	500,909	35	$.008974	$.028571	$5,193	$16,534
353	Dist. Station Equip.	442,174	404,288	362,223	20	.027185	.050000	12,021	22,109
354	" Storage "	2,939,631	2,786,530	2,359,730	40	.006462	.025000	18,996	73,491
355	" Mains	23,011,563	19,790,723	16,033,721	28	.014593	.035714	335,808	821,835
356	District Reg. & Meters	302,936	291,940	282,551	30	.012649	.033333	3,832	10,098
357	Services	8,278,937	6,677,211	5,546,748	20	.027185	.050000	225,063	413,947

358	Consumers' Meters & Reg.	6,095,015	5,469,119	5,160,227	30	.012649	.033333	77,096	203,165
360	Install. on Cons.' Prem.	15,255	12,966	12,204	10	.075868	.100000	1,157	1,526
361	Miscellaneous Dist. Equip.	235,871	207,567	198,132	10	.075862	.100000	17,895	23,587
	Total Distribution	$43,007,142	$37,298,957	$31,563,487				$697,061	$1,586,292
	General:								
375	General Office Land	$388,260	$388,260	$388,260					
376	" " Structures	1,326,178	1,312,916	1,206,822	45	$.004701	$ 22222	$6,234	$29,470
377	" " Equip.	284,209	255,788	241,578	15	.042963	.66667	12,210	18,947
378	Other Gen. Land	540,552	540,552	540,552					
379	" " Struct.	391,371	372,350	342,726	45	.004701	.022222	1,840	8,697
381	Gen. Shops Equip.	3,558	2,846	2,669					
382	" Stores "	65,709	55,852	52,567					
383	" Trans. "	712,723	408,471	370,574					
384	" Constr. "	142,579	121,192	114,064					
385	" Commun."	50,236	47,724	45,212	15	.042963	.066667	2,158	3,349
386	" Lab. "								
387	Misc. Gen. Equip.								
	Total General	$3,905,375	$3,505,951	$3,305,024				$22,442	$60,463
	Total Tangible	$65,341,141	$57,510,554	$49,773,964				$1,087,528	$2,386,749
	Total Capital	$65,768,547	$57,937,960	$50,201,370				$1,087,528	$2,386,749
	Allowance for W. I. Pipe	$1,666,427	$1,166,499	$749,892	28	$.014593	$.035714	$24,319	$59,515
	Total Capital Inc. W. I. Pipe	$67,434,974	$59,104,459	$50,951,262				$1,111,847	$2,446,264

[fol. 377]

Reproduction Cost New with 22.32% Overheads

Account		Reproduction cost new	Depreciated repro. cost new		Life	Annuity rate		Annuity amount	
			6 per cent sinking fund	Straight line		6 per cent sinking fund	Straight line	6 per cent sinking fund	Straight line
	Intangible Capital								
301	Organization	$415,000	$415,000	$415,000	.....	.....	.....	.....	.....
302	Franchises	12,406	12,406	12,406	.....	.....	.....	.....	.....
303	Misc. Intangible Capital	.....	.....	.....	.....	.....	.....	.....	.....
	Total Intangible	$427,406	$427,406	$427,406	.....	.....	.....	.....	.....
	Tangible Capital								
	Production:								
311	Land	$1,657,335	$1,657,335	$1,657,335	.....	.....	.....	.....	.....
312	Structures	1,673,653	1,539,760	1,255,241	33	$.006852	$.030303	$11,468	$50,717
313	Boiler Plant Equipment	1,536,948	1,306,406	1,106,603	25	.018227	.040000	28,014	61,478
314	Production Equipment	10,455,499	9,216,515	8,265,293	19.56	.028307	.051248	295,967	535,820
315	Storage Equipment	2,923,573	2,822,313	2,463,576	40	.006462	.025000	18,892	73,089
316	Misc. Prod. Equip.	234,409	210,968	187,528	20	.027185	.050000	6,372	11,720
317	By-Prod. Struct. & Equip.	1,616,045	1,449,742	1,288,138	20	.027185	.050000	43,932	80,802
	Total Production	$20,097,462	$18,203,039	$16,223,714	.....	.....	.....	$404,645	$813,626
	Distribution:								
351	Land	$1,107,044	$1,107,044	$1,107,044	.....	.....	.....	.....	.....
352	Structures	636,301	606,453	550,752	35	$.008974	$.028571	$5,710	$18,180
353	Dist. Station Equip.	486,173	444,517	398,267	20	.027185	.050000	13,217	24,309
354	" Storage "	3,232,141	3,063,805	2,594,537	40	.006462	.025000	20,886	80,804
355	" Mains	25,301,343	21,760,011	17,629,167	28	.014593	.035714	369,222	903,612
356	District Reg. & Meters	333,080	320,990	310,666	30	.012649	.033333	4,213	11,103
357	Services	9,102,738	7,341,630	6,098,681	20	.027185	.050000	247,458	455,137

358	Consumers' Meters & Reg.	6,701,503	6,013,327	5,673,698	30	.012649	.033333	84,767	223,381
360	Install. on Cons.' Prem.	16,773	14,256	13,419	10	.075868	.100000	1,273	1,677
361	Miscellaneous Dist. Equip.	259,342	228,221	217,847	10	.075868	.100000	19,676	25,934
	Total Distribution	$47,176,338	$40,600,254	$34,594,078				$766,422	$1,744,137
	General:								
375	General Office Land	$388,260	$388,260	$388,260					
376	" " Structures	1,360,571	1,346,966	1,392,627	45	$.004701	$.022222	$6,396	$30,235
377	" " Equip.	312,490	281,241	265,617	15	.042963	.066667	13,426	20,833
378	Other Gen. Land	540,552	540,552	540,552					
379	" " Struct.	430,314	409,401	376,829	45	.004701	.022222	2,023	9,562
381	Gen. Shops Equip.	3,912	3,129	2,934					
382	" Stores "	72,247	61,410	57,797					
383	" Trans. "	783,643	449,116	407,448					
384	" Constr. "	156,767	133,252	125,413					
385	" Commun."	55,235	52,473	49,711	15	.042963	.066667	2,373	3,682
386	" Lab. "								
387	Misc. Gen. Equip.								
	Total General	$4,103,991	$3,665,800	$3,607,188				$24,218	$64,312
	Total Tangible	$71,377,791	$62,469,093	$54,424,969				$1,195,285	$2,622,075
	Total Capital	$71,805,197	$62,896,499	$54,852,378				$1,195,285	$2,622,075
	Allowance for W. I. Pipe	$1,832,246	$1,282,572	$824,511	28	$.014593	$.035714	$26,738	$65,437
	Total Capital Inc. W. I. Pipe	$73,637,443	$64,179,071	$55,676,886				$1,222,023	$2,687,512

[fol. 378] Exhibit 56 sets forth what is believed to be the depreciated reproduction cost new of these properties computed by the 6 per cent sinking fund method and also by the straight line method, and also sets forth what is believed to be the proper depreciation annuity. The reproduction cost new figures are those shown in Table 2 of Exhibit 52, using four-year average unit costs. I have not included in this exhibit the depreciated cost estimates based on the other construction periods shown in Exhibit 52. The depreciated reproduction cost, including wrought iron pipe for the one-day construction periods shown in Exhibit 52 are:

December 31, 1929, Estimate

	Depreciated reproduction cost	
	6% sinking-fund method	Straight-line method
With 6% Overheads	$56,303,680	$48,595,503
With 11.25% Overheads	58,848,633	50,779,635
With 21.64% Overheads	63,909,360	55,124,928
June 15, 1930, Estimate		
With 6% Overheads	55,966,260	48,296,572
With 11.25% Overheads	58,494,501	50,469,047
With 21.64% Overheads	63,522,153	54,785,311

The depreciation estimates result in a depreciated condition, that is, the relation between the depreciated condition and the cost new of 81.1 per cent on the sinking fund method and 76.3 per cent on the straight line method, excluding wrought iron pipe. Including wrought iron pipe the figures are 87.7 and 75.6 per cent, respectively.

I have used the term depreciation as meaning the lessening of value, embracing all factors of wear and tear, in-[fol. 379] adequacy and obsolescence, following the same conception as stated by the Interstate Commerce Commission in the Texas Midland Railroad decision, that is, a lessening in value due to the smaller number of service units in the property as found, than in the same property new. It follows that the accrued depreciation found is a measure of the present accrued obligation to abandon and replace with new property. Depreciation, as we have presented it, is not the service theory of depreciation, which is, in effect, that as long as the old unit is delivering as complete and efficient service as a new one, it is as valuable to the owner as new, and therefore has suffered no deprecia-

tion, which theory ignores the time element. I have followed the theory that the value of old units and the number of years of future service which such units can deliver, as compared to new units, must be considered, and that an old unit has a value which must be measured by the value of a new unit, being worth only such an amount that the sum of its carrying cost per year, including amortization of cost over its expected life, is exactly the same as similar costs upon a new unit. In other words, a purchaser might buy either a new unit or an old unit, and come out in the same financial position at the end of the life of each. The physical facts have been so incorporated in my final estimates as to accurately present the physical condition only, expressed as a financial condition.

Any method of depreciation which does not provide for payment for the use of capital is basically in error, for capital is not a free goods, and in order to translate the physical concepts of depreciation into financial ones the interest factor must be used, for depreciation as we use it, [fol. 380] and in relation to other elements in this case, is more of a financial concept and not physical. The life factor establishes the annuity for depreciation at maturity, and the interest factor with the expectancy factor translate this to the time period under consideration.

The lives used in this study are the result, and the sole result, of the development of lives as shown by field inspection and by an examination of past performances of this Company and this Company alone. Life tables have not been used in any sense of the word.

In respect of distribution mains, which amount to 37.38 per cent of the total depreciable capital, we adopted the Company's method of determining age. To determine the lives, physical examinations were carried on in the field from February to June, 1930, inspections being made in approximately 50 different locations. Physical examination of the main was made by brushing off the rust or corrosion and examining the main for pitting. We examined the character of the main itself, the soil conditions and location. We did not ordinarily look at mains less than 5 years old, but selected mains which had already been in existence for a number of years. Varying types of soil

conditions were encountered in various sections of the territory served.

As a result of our inspections it appeared that for unwrapped steel and wrought iron pipe 30 years represented the average life, and for cast iron pipe 40 to 45 years. In my opinion corrosion is principally dependent upon time, for corrosion is an electro-chemical change which varies with the amounts of moisture and salts in the soil. Therefore, the age and life method is a reasonable method of [fol. 381] estimating rate of corrosion of pipe buried in the ground, but it is also dependent upon soil conditions.

In addition to this study, we also examined the foremen's reports which have been required since 1922. We also made a study of the actual retirements of pipe by the Company. Every time a main is opened the Company requires a report to be made by the foreman. Such reports show the location of the main, kind and size, date laid and kind of soil. Instructions given to the foreman provide as follows:

"Instructions on Rating Pipe

Examine as great a length of pipe as possible. Remove clinging dirt with a brush and examine the pipe surface carefully, top surface, undersurface, and sides. Rate the pipe by placing cross in square opposite the nearest rating number which represents its condition. Select this number from the following tabulation.

Condition of Pipe

Rating condition	Explanation
100% Perfect	No trace of rust, pitting, or rust scale.
90% Slight rust ...	Rust spots, but no pitting or rust scale.
80% Medium rust ..	Light coating of rust, but no pitting or rust scale.
70% Heavy rust ...	Uniform heavy coating of rust all over pipe surface, but no pitting or rust scale.
60% Slight pitting	Slight pitting or rust scale formation or both.
50% Medium pitting	Pits half way thru pipe wall, or equivalent in pipe scale.

Rating condition	Explanations
40% Heavy pitting	Pits or scale practically thru the pipe wall, but no leakage thru perforations.
30% Slight perforations	Pin holes caused by corrosion.
20% Medium perforations	Holes in pipe, the size of a pea.
10% Heavy perforations	Holes larger than the size of a pea, up to those the size of a half dollar.
0 Pipe all gone	Complete conversion to rust or scale; no metal left.

If pipe appears to have an intermediate rating indicate as in the following example: $90\%\frac{\quad}{X}$, for an 85% rating."

[fol. 382] After much study and consideration the Company selected samples of pipe which they desired to classify in this manner. The instructions to foreman are accompanied by photographs of those samples of pipe and the foreman is supposed to make his report by comparison of the pipe examined with the samples and photographs. The photograph of the sample which is rated as 70 per cent condition, shows actual pits in the pipe, and I know of my own knowledge in the field that ratings of 70 per cent were made upon a pitted pipe.

As a result of such examinations of pipe removed, I estimated a life of 30 years for unwrapped 2-inch steel or wrought iron pipe, and 33, and in some cases 35, years for four-inch unwrapped pipe. Since 1922 retirements have been exceedingly heavy, largely due to functional reasons, that is, due to paving, street widening or grade changes in the streets.

Lately the Company has been wrapping mains prior to installation, the methods for which have been improved since the process was first started. I have considered the additional life necessary to justify the expense of wrapping and have finally allowed 7 years' increase of life for wrapped 2-inch pipe and 10 year- increase for all other mains.

The Company also re-uses some pipe which has been removed. Upon examination of such pipe in the material yard, and from a discussion with the foreman, it was concluded to consider the re-used pipe as in 90 per cent condition at the time it was re-laid.

The wrought iron pipe was all installed prior to 1913 and I have used an age of 20 years and a life of 36 to 37 years. For cast iron pipe I used a life of 50 years. Cast [fol. 383] iron does deteriorate in this territory. There is also a functional element of depreciation in that cast iron pipe is used always for low pressures and the lead joint seals used caused considerable leakage.

I allowed no difference in lives as between wrought iron and steel pipe. Our studies are a composite of wrought iron and steel pipe and, in my opinion, the lives I have used are proper for the composite pipe. I consider the question debatable, but my own judgment is that the wrought iron pipe would last longer, and such is the general opinion.

The next important item is account 357 (gas services), constituting 13.45 per cent of the depreciable capital, as to which I found a condition of 80.7 per cent on the sinking fund method and 67 per cent on the straight line method. There are 309,124 services in the system. They are in substance an extension of the main leading to the consumers' premises. Examination was made of the Company's records and some 40 inspections made in the field. The services deteriorate more rapidly than the mains, particularly at the point of take-off from the main and after it leaves the sidewalk, where it is not laid as deep and is susceptible to more corrosion from watering lawns, etc. We have used a life of 30 years for unwrapped service pipes and 40 years for wrapped pipe.

Account No. 358 (consumers' meters and regulators) amounts to 9.9 per cent of the depreciable capital. On the sinking fund basis I found 89.7 per cent condition and on the straight line basis 84.7 per cent. Meters are of two types—cast iron and tin. The cast iron meter has a very long life, and with the Company's method of maintenance can be kept in service as long as desired. As to such meters I have developed depreciation primarily on the theory of accrued maintenance. The casing is practically everlasting and amounts to 50 per cent of the cost. Tin meters depreci- [fol. 384] ate with age and I have used a 22-year life for

them. Some meters of this kind are of special sizes and have already lived most of their useful lives, having a definite functional depreciation. The Company is retiring them as they come in. I have considered the character and cost of various repairs required in reaching my conclusions. The regulators are a rugged piece of equipment in many respects resembling iron meters except that there are fewer parts. I have considered that there is a 75 per cent salvage to regulators, or that only 25 per cent of the value thereof is subject to depreciation. As to the depreciable parts, I have used a life of 12 years.

The next important account is account No. 354 (storage equipment), in which account appears the holders used by the Company in the distribution of gas. I made a field inspection of all the holders and they are in excellent condition. Holder No. 3, in Pasadena, is 17 years old and I have used 50 years as its life. On the sinking fund method its condition is 91 per cent and on a straight line method 66 per cent. I have estimated that strictly from a life basis. I do not feel that the straight line estimate is a correct basis of estimate. It does not represent the value of the property. The proponents of the straight line method are correct when they say that in a rate case the straight line estimate may be used in estimating accrued depreciation if in setting up the depreciation annuity, a straight line annuity is used. The two must be used together to give a reasonable result. In my opinion 66 per cent is not the value of that holder to anyone. It represents a mere mathematical relationship.

In a rate case where the estimate of value is reproduction cost new, less depreciation on a straight line basis, in theory you must estimate the depreciation annuity on a straight [fol. 385] line basis. On the other hand, the sinking fund annuity would be used with an undepreciated rate base. If depreciation is estimated on a straight line basis, then the annuity should be on the straight line basis.

In my opinion, in every instance in this estimate of depreciated value, the present value of the property, that is, its reproduction cost new less depreciation, is properly measured by the sinking fund method which I have employed, including both physical and functional deterioration to the extent they exist. The figures shown in the second column from the left of Exhibit 56 represents my

best opinion and judgment as to the present value of the property in so far as reproduction cost new is the measure. I have measured that accrued depreciation by the sinking fund method and have included both physical deterioration and functional depreciation where it has been found to exist.

No. 4 holder, at Pasadena, is the smallest in the system and was originally built some 28 years ago and has a relatively small capacity, approximately 500,000 cubic feet. Since its erection various parts have been replaced and it has been kept in first-class condition, as it is today. I have used an age of 15 years and a life of 35 years, resulting in a condition of 80 per cent by the sinking fund method, or 60 per cent straight line method. Holders Nos. 5 and 6. in Pasadena, were originally built 26 or 27 years ago and removed to Pasadena 7 or 8 years ago. They are in good physical condition and I have considered their age as equivalent to 10 years and their total life 40 years. Their condition would be 91 per cent under the sinking fund method and 75 per cent on the straight line method. Other [fol. 386] holders I have figured at 50-year lives, with varying ages.

The distribution buildings (account 352) have all been inspected by me and are in very fine shape as a whole and are kept in good repair by the Company. I have used a combination of accrued maintenance and age and life methods and found the condition of structures 95.3 per cent by the sinking fund method and 86.6 per cent straight line method. For the distribution capital group as a whole, including 68.66 per cent of depreciable capital, the average condition is 86.7 per cent by the sinking fund method and 73.4 per cent by the straight line method.

In considering production capital, which amounts to 27.24 per cent of the total depreciable capital, I have used somewhat different methods, largely predicating my conlusions on the testimony of Mr. Masser, vice-president and executive engineer of the Company, in a prior rate proceeding. With the exception of account 315 (gas storage equipment), where I worked out the detail independently, and some other minor items, the estimate of accrued depreciation and observed and experienced obsolescence, as shown in Exhibit 56, is not the result of my own personal investigation or observation.

The bottom figure in the second column on the last page of Exhibit 56 is my estimate of the value of the entire property on the reproduction basis after deducting the accrued physical depreciation and obsolescence.

All the testimony so far given by me relates solely to measuring the accrued physical depreciation on the reproduction new basis as shown in Exhibit 56, and have nothing to do with the depreciation annuity.

The depreciation annuity shown on the first page of Ex- [fol. 387] hibit 56 is the result of the use of the lives shown in the column headed "Life" on that page. These lives are identical with those used in Commission Decision No. 17,830, with the exception of gas distribution mains, where, in that decision, a life of 25 years was used, and in this exhibit a life of 28 years is used; gas services, where 18 years was formerly used and 20 years is now used; and meters and regulators, where 30 years has been used instead of 25 years, as formerly. The depreciation annuity is the result of the use of the lives shown, using the 6 per cent sinking fund method.

I have also made a study of the Company's depreciation reserve as set up under its accounting practice from 1913 to the end of 1929, studying by accounts the depreciable capital, the balance in the reserve, and the credits to the reserve, to obtain the growth of the depreciation reserve in respect to depreciable capital.

Thereupon the Commission offered and there was admitted in evidence Commission Exhibit No. 58, consisting of thirteen charts, showing the development of the Company's depreciation reserve by capital accounts, of which charts 9 and 10 are as follows:

FOLDOUT(S) IS/ARE TOO LARGE TO BE FILMED

[fol. 390] The top curve on each chart shows the amount of depreciable capital by years as entered on the books of the Company. The balance in the depreciation reserve from 1913 to about 1917 is shown by the second curve, and since 1917 by the fourth curve, the jog downward in that year being due to a transfer of a portion of the Company's depreciation reserve for gas capital to a contingency reserve, which was later transferred to the reserve for electrical capital. The bottom curve shows the accumulated credits to the reserve. Chart 9 shows that on January 1, 1930, 13.4 per cent of the depreciable capital in distribution mains is held in the depreciation reserve for that account. Chart 10 shows that 31.8 per cent of the depreciable capital in meters is held in the depreciation reserve for that account. The accumulation of retirements for meters since 1913 has amounted to 2.7 per cent of the depreciable capital for that account. The Company has had a very low retirement of meters. Iron meters especially may be repaired indefinitely, and the maintenance taken care of as an operating expense. There is no need to provide for additional retirement expense through the depreciation reserve. For this reason I have increased the life of meters to thirty years.

For distribution mains the relation between the balance in the depreciation reserve for that account to depreciable capital was in 1913 less than 7 per cent. Thereafter it increased steadily until the period of heavy removal beginning in 1922, when it declined until 1926 or 1927. Since the latter date it has been increasing again, being now 13.4 per cent. When main removals were heaviest the City was doing a large amount of paving. In increasing my annuity life for this [fol. 391] item from 25 to 28 years, I have given consideration to this curve on chart 9 of Exhibit 58, and also to the fact that in recent years the Company has been wrapping mains. I believe that the wrapping of mains is beneficial, and the justification for such increased capital expenditure is that it will be reflected in some degree in a smaller depreciation expense.

I have also worked out and shown in connection with the reproduction cost estimates in Exhibit 56 the straight line depreciation annuities, which are the annuities which would be used if a depreciated reproduction value were used as a rate base. I have not included in any of my depreciation an-

nuities any allowance for the excess service lengths omitted by Mr. Dufour in his Exhibit 52.

The annuities upon the different reproduction cost new bases would be as follows:

December 31, 1929, Prices:

Overhead used	6% sinking fund	Straight line
6.00%	$1,054,668	$2,320,507
11.25	1,103,752	2,428,417
21.64	1,201,043	2,642,386

June 15, 1930, Prices:

6.00%	$1,048,478	$2,306,606
11.25	1,097,256	2,413,826
21.64	1,193,940	2,626,433

All of the figures given include wrought iron pipe.

I have also worked out in approximate form the depreciation annuity on historical cost with 11.25 per cent overheads on the basis of the lives which I used in my accrued depreciation study. The annuity on this basis is $485,719.00, which [fol. 392] corresponds with the figure of $1,114,220 on the second page of Exhibit 56. The difference represents in a measure the functional item which I have allowed in the depreciation annuity lives which I have not allowed in the accrued depreciation lives. I do not think an annuity computed on the accrued depreciation lives would be correct. The correct annuity in my opinion is that shown in Exhibit 56.

Cross-examination:

I have never built, designed or operated any gas plant.

Interest on organization expense has not been included in the overheads estimated by the Commission. It ought to have been done, and the Commission's valuation figure should be changed accordingly.

The estimated annuity lives of distribution mains have been increased three years from 25 to 28 over the last decision. I do not know the lives used for other gas companies except of Pacific Gas and Electric Company, as to which I am sure the life used is not in excess of 25 years.

There is no way mathematically to determine the various factors of supersession, functional depreciation and obsolescence. The final basis must be one of judgment. The principal cause of obsolescence and supersession of mains is street improvement, such as paving, widening and changing grade. Such changes have been very frequent in recent years in Los Angeles. Changes of that nature are much less in San Francisco.

I imagine there are some gas companies in California who use shorter lives than 20 years for gas services; the life used [fol. 393] by the Pacific Gas and Electric Company is not greater than 20 years. For meters and regulators 25 years has been used for many years; I don't know of any other gas company that uses as high as 30 years.

I have never previously worked out the depreciation annuity for any gas company. The item of wrought iron pipe on the bottom of the sheets in Exhibit 56 covers both mains and services and the annuities used are the annuities for mains. If I had segregated between mains and services I would have had a larger annuity.

I consider that the application of 11.25 per cent to historical reproduction cost for overheads would give a reasonable historical cost as disclosed by the Company records. I consider such percentage for overheads fair and reasonable if proper corrections are made in the operating expense to take care of the amounts which have been withdrawn in arriving at these figures. I am of the opinion that those overheads are reasonable to be used in arriving at the historical cost of the property of this Company as of January 1, 1930.

The overhead percentage used by Mr. Thelen in the valuation made about 1913, including tool expense, was 14.18, and taking out tool expense of 1.09, it left 13.09 per cent.

In the reproduction new valuation interest during construction has not been computed upon organization expense. [fol. 394] In my opinion it should be included and the valuation figures should be changed accordingly. Overheads were not applied to land. The land must be acquired before the construction of the plant is started and there is an out-of-pocket cost for acquisition and interest and other overhead items which have not been allowed in the valuation.

I have not made a theoretical study to determine the per cent chargeable for taxes during construction, as the Company did in its study. The amount of .25% allowed for this

item is largely based on percentages used in former cases. The taxes actually paid by the Company from 1922 to 1929, a period during which the additions to the plant were of such magnitude that they approached a reconstruction program, were very materially below .25%. The amount of taxes will depend largely on the amount of property under construction on the first Monday in March of each year.

I consider the aggregate of 22.32 per cent for overheads a reasonable allowance on a reproduction new basis. I think the Company's claim of 24.27 per cent is too high, but there is room for differences in judgment between engineers as to the proper overheads. The difference primarily is in the question of interest during construction. The cost of money used was 6.9 per cent for the 5-year period and 6.1 per cent [fol. 395] for the one-year period. These figures were derived from Mr. Fankhauser's study and do not represent my own independent judgment. The interest used worked out to 7.11 per cent before compounding and I used 7.3 per cent, which, after compounding, became 8.32 per cent. The average construction period would therefore be 1.06 years, which is very nearly the same figure used by Mr. Luick. If I had used 8 per cent as the cost of money and 2 per cent for interest on bank balances, as Company engineers did, for the same construction period, my interest during construction before compounding would have been 8.72 per cent and after compounding 9.94 per cent; with a capital cost or interest of 7 per cent, the figures would be 7.23 per cent before compounding, and with capital costs of 7.2 per cent per annum, it would be 7.47 per cent.

Prior to 1924 the Company charged little or nothing for interest during construction. This does not mean that such cost was not incurred, but it was charged to surplus.

In determining the historical cost of the general office building I endeavored to make the cost shown in the appraisal the amount actually expended by the Company and adjusted the account so that by applying the overhead percentages used we would have arrived at the actual amount paid. Records showed that the overheads actually paid by the Company were in excess of the 6% and 11.25% used by us. So we de- [fol. 396] ducted from the total cost of the building shown on the Company's books, the overheads of 6% and 11.25% used by us, so that we would get a base figure to which we could

apply these percentages and get the same final figure as the Company's books showed. In the case of reproduction cost new, the actual percentage paid by the Company was more than 11.25%, but less than 22.32%, so we followed the same method, by first deducting our percentages, to get a base figure, and then adding them back to get the final figure, which would agree with the Company's actual cost as shown by its books. On the 22.32 basis we allowed the added increment over the lower overheads. There was nothing charged to the cost of the building beyond architects' fees and contractors' profit and interest. Nothing was included for general expense or law expense, although such expenses were incurred.

I determined accrued depreciation by individual units of accounts and deducted this amount from the reproduction cost new, resulting in the estimates of depreciated value as shown in my Exhibit 56. The second column under the heading "Depreciated reproduction cost new 6% sinking fund" represents my judgment of the present depreciated value of the property on a reproduction new basis.

Taking holder No. 3, in Pasadena, as an example, I find that it is 17 years old and I estimated its total life as 50 years. In arriving at the 91 per cent condition to which I testified I referred to an annuity table for a life of 50 years and found that a 6 per cent annuity is .00344429. Another table gave me the accumulation for 17 years and the relation is such between the annuity and the accumulation as to represent [fol. 397] 9.7 per cent, which, subtracted from 100 per cent, leaves 90.3 per cent, and I used 91 per cent as representing the condition of the holder. I used substantially that method in arriving at all the other items in my reproduction new less depreciation value.

An old unit normally has a higher operating cost than a new unit and this enters into the determination of value. On the other hand, such factors tending to pull the value down are offset by maintenance work which the Company has performed putting various units in a better condition than they would be by consideration of age alone, so I have considered that these two items offset each other.

In arriving at these figures I worked out an equation as follows: Cost of new unit times .06, plus cost of new unit times 6 per cent sinking fund annuity rate for estimated life

of new unit is equal to "X" (value of old unit) times .06, plus "X" times 6 per cent sinking fund annuity for estimated remaining life of old unit. Solving this equation for "X" gives the value of the old unit. The figure .06 used in this equation represents my best judgment as to the amount which can be depended upon to be earned from the property. It is a conservative estimate of the earning power of the money invested.

If in this equation I had used a higher percent as the earning power of the money invested I would have obtained a higher present value of the old unit. In the case of holder No. 3, if I had used 8 per cent instead of 6 per cent, I would have obtained a 94 per cent condition instead of 91. I might point out, too, that here we are dealing with long lives. The [fol. 398] difference in the case of short lived properties is less marked.

In determining the allowance for interest during construction on the historical basis, I have computed such interest for half the construction period plus 2 months, which is taken as the financing period, that is, the time during which money must be held ready for construction use. This is a judgment figure. In the estimates made by Mr. Thelen in 1913 the final rate for interest during construction on an historical reproduction cost basis was 1.78 per cent. Working back this would indicate that he used a 3 months' construction period. I used a construction period of 2.65 months. I have also allowed interest on construction materials based on the average balance on hand for the years 1924 to 1929. Of the total interest allowed by me approximately .75 per cent was for interest on construction materials.

Redirect:

In my opinion the figures shown in my study, 11.25 per cent, are the proper overheads that might have been charged on an historical basis. If the Company had in fact charged 14.48 per cent I would have given weight to that fact in my examination because the judgment of the officials at the time carries considerable weight, as they are in a better position to judge than anyone else at a subsequent date, in the absence of evidence to the contrary.

The overheads used by Mr. Thelen were introduced in evidence in a prior rate case about 1915. Following that hear-

ing the Company actually charged even less to overheads for a period, then later increased the percentage charged. Mr. Thelen's overheads are based on a study for 2 years and 9 [fol. 399] months in 1913, 1914 and 1915. Even his study does not include all the fixed capital for some reason which I cannot understand. From a study of both capital and operating expenses for the period mentioned, he developed a percentage of 9.5 per cent for engineering and administration, and finally concluded that 8 per cent would be fair for these items. At the time Mr. Thelen made his appraisal reproduction cost and historical costs were much on the same plane, and I believe that many of the unit costs, or possibly all used in his study, were historical unit costs. Nevertheless Mr. Thelen entitled his exhibit "Reproduction Cost New."

I recognize that in making a physical inventory and working up unit costs for an appraisal there are certain omissions which, regardless of care, are bound to come about. Although the appraisal made by Mr. Luick was made with great care, nevertheless I believe there are some omissions. On the other hand, there is an opportunity for over-statement of certain items. On the historical basis, therefore, it has always been customary to allow for omissions and contingencies one per cent, which is the amount included in my estimate of overheads. In the reproduction estimate, however, 2 per cent is allowed. In large measure the contingencies encountered historically are actually reflected in the costs charged, whereas on a reproduction basis a greater allowance for increased hazards and unforeseen circumstances should be made.

I find as a matter of fact that the allowance for wrought iron pipe in Exhibit 56 is intended to provide for both mains and service, mains representing 78½ per cent and service 21½ per cent. On the reproduction cost new, with 22.32 per cent overheads, I find that the annuity on the sinking fund [fol. 400] method should be increased by $2,998 and on the straight line method by $2,028, an increase of 11.2 per cent of the annuity in respect of wrought iron pipe on the sinking fund method and 3.1 per cent on the straight line method.

In increasing the life of mains in determining the depreciation annuity I gave consideration to the increase in the depreciation reserve attributable to this account from 1913 to

1929. In connection with meters and regulators, these appliances have very long lives and the retirements have been low.

I can sum up in regard to the accrued depreciation on present value figures with respect to reproduction cost new as follows:

I have made a thorough study of depreciation as found in this property and my conclusions were only arrived at after careful consideration of the facts, based upon physical inspection and a study of the Company's operating records. I checked age and expectancy of life against condition, and in the case of buildings and other long-lived property the age and life have been only used secondarily. I have investigated the condition and for the purpose of translating that into the straight line estimate, I have estimated the lives. In all of my estimates I took into consideration the operating expenses and maintenance of this property and so I believe my results, as expressed under the sinking fund column, properly and correctly represent the condition of these properties when that condition is expressed as a financial estimate in terms of its reproduction cost new.

[fol. 401] JOHN FRANKLIN DODGE was called as a witness on behalf of the City of Los Angeles, and having been duly sworn, testified as follows:

I am a consulting petroleum engineer and am Chairman of the Division of Petroleum Engineering of the University of Southern California; I graduated from the College of Mining, University of California, in 1912. After 2½ years of experience in the oil fields and mines of Nevada and California I attended the University of Southern California and obtained a Master's degree in petroleum chemistry. While employed by the Pacific Oil Company in 1924 I attained a degree of mining engineer from the University of California on a thesis on valuation of fuel lands. While employed in the oil fields I was connected with casinghead gasoline plant operation and production operations. After obtaining my master's degree I taught engineering and chemistry and during the war was an instructor in the aviation school. In 1919 I went to work for the Fuel Oil Division of the Southern Pacific Company and was continuously employed by that company or its successors, Pacific Oil

Company and Standard Oil Company, principally in valuation work, until September 1, 1929, when I came to the University of Southern California. At intervals between the valuation work I was engaged in production engineering for the fuel oil department of the Southern Pacific Company and later the Pacific Oil Company. While with the Standard Oil Company I was engaged in all forms of petroleum engineering work. In 1928 I assisted in the preparation of a report on the gas situation in California and represented the Standard Oil Company on the Operators' [fol. 402] General Committee of Gas Conservation and also represented the company in all inter-company negotiations on gas surveys and agreements as to curtailment or conservation measures. I resigned from the Standard Oil Company in 1929 and became chairman of the Department of Petroleum Engineering in the University of Southern California. I have also been consulting engineer for the attorneys for the State Department of Natural Resources in connection with the various suits brought to enforce the gas conservation act.

I am a member of the American Petroleum Institute, American Institute of Mining and Metallurgical Engineers, American Association of Petroleum Geologists and California Natural Gasoline Association.

I am familiar with the gas situation existing in the State of California, including the Southern California gas field. My experience and education include the study of oil geology.

With the assistance of Mr. W. W. Copp, former deputy state supervisor of oil and gas, and former chief geologist and petroleum engineer for the Marland Oil Company of California and at present consulting engineer for Kettleman Oil Corporation, and of Mr. R. G. Whealton, for a number of years associated with me in Pacific Oil Company and Standard Oil Company, later sub-surface geologist for Pacific Western Oil Company, I have made a study of the natural gas resources of California, with particular reference to the gas reserves available to public utilities serving the city of Los Angeles. The study was made at the request of the Board of Public Utilities of the city of [fol. 403] Los Angeles to show quantities available and which I believe would be available for such purposes.

Natural gas available in commercial quantities is principally that associated with petroleum being produced with the oil and separated at the surface. Natural gas is also produced unassociated with petroleum products (so-called dry-gas), and a field of somewhat limited extent exists at Buttonwillow, which at present is producing some gas but whose production under the present conditions is primarily due to lease requirements.

36 fields in the State of California produce gas in commercial quantities, all of which can readily be connected with the transmission lines bringing gas into the Los Angeles area, but not all of these fields are expected to yield gas for any substantial period of time. For the present the fields of major importance are Kettleman Hills, Ventura, Long Beach, Santa Fe Springs, Seal Beach, Elwood, Midway-Sunset, Huntington Beach, Dominguez and Elk Hills, which are named in the order of their present importance. In addition to these fields 9 other fields are considered as dependable sources of gas supply.

The supply of gas from any field is dependent almost entirely upon the amount of oil being produced. While the gas oil ratio, that is, the number of cubic feet of gas produced per barrel of oil, can be varied somewhat, as a whole the production of gas varies directly with the production of oil. In the past little attention was paid by the producers to the gas and a great deal of it was wasted. During the past 5 years, however, increasing attention has been given to the value of the gas and it has been realized that [fol. 404] it is important not only for its sales value, but as an aid to the extraction of oil from the ground. In some cases the gas produced is worth more than the oil which it helps to bring to the surface. With increasing public interest in conservation and statutory restrictions on wastage, it is believed that past wastages will not be repeated and that the rate of production of gas will be better adapted to the demand and that unavoidable surpluses will be reduced by repressuring and underground storage. On certain wells where underground storage operations have been conducted, it has been found that there was no loss by migration.

There has never been a time, except for occasional peak days, when producers were sure of a market for all the gas produced. There has been, therefore, no stimulus to

proper use of gas, and in many areas the amount of gas could be increased 50 per cent by increased service in the field. When an assured demand for gas exists, the producers will take steps to collect and deliver gas in a manner more efficient than is at present employed. The price in the field which has been obtained in the past did not justify the expenditure of even moderate sums to prevent leakage and wastage. In the production of casinghead gas, gas is separated from the oil at the well by a trap or separator and then collected from a system of lines to a gasoline extraction plant, where the gasoline is removed, in which process a shrinkage of 10 to 20 per cent occurs due to the gasoline vapors removed and the use of the gas for fuel in the field. With an increasing use of electric power for drilling and pumping, the percentage of gas [fol. 405] available to the utilities will increase in the future. In addition a considerable amount of gas used in field and refinery operations can be replaced by fuel oil and released when economic conditions make such substitution desirable.

Gas enters the distribution system in the Los Angeles area from the Los Angeles Basin fields, and from those in Ventura and Santa Barbara Counties, as also from the fields in the southern end of the San Joaquin Valley. Due to the intricacies of the system it is difficult to state in what field the gas used in Los Angeles originates. The Los Angeles Gas and Electric system receives its gas from a number of transmission lines.

For the month of May, 1930, there was a net gas production in the State of California in the amount of 1,500,000 m. c. f. per day, of which 344,000 m. c. f., or 23 per cent, was taken by gas companies and others for resale and 700,000 m. c. f., or 46 per cent, was blown into the air for lack of market or storage facilities. The balance went to various field uses, storage and shrinkage. Kettleman Hills produced 30 per cent of the entire state production, Santa Fe Springs nearly 25 per cent, Long Beach nearly 14 per cent and Ventura Avenue 10 per cent, these 4 fields producing nearly 80 per cent of the total state production. The production of these fields is governed largely by the oil curtailment agreement, which has substantially reduced the production of oil below the capacity of the existing

wells and facilities. This curtailment may be expected for the next 5 years. No great change in the origin of gas supply is to be expected in the immediate future except for [fol. 406] a steady decline in the production of the Santa Fe Springs and Long Beach fields and a corresponding increase in the utilization of Kettleman Hills and Ventura Avenue gas.

The Kettleman Hills field is being operated under a unit plan, by which the possible production of that area is very greatly reduced. It is expected that in 1930 the Pacific Gas and Electric Company will transport 60,000,000 cubic feet of gas per day through its pipe line to the San Francisco Bay District and the joint pipe line of Pacific Gas and Electric Company and Pacific Public Service Company may be expected to dispose of 75,000,000 cubic feet per day, to the Stockton and Sacramento Districts and to the oil refineries at Avon, Martinez and Richmond. It is expected that these amounts may be increased to 120,000,000 cubic feet per day in 1931 and to 125,000,000 cubic feet per day in 1932. Other outlets for Kettleman Hills gas are the possible use of 5,000,000 cubic feet per day by the Southern California Gas Company in the San Joaquin Valley and the 20-inch pipe line from Kettleman Hills in the Los Angeles District. The desire to produce oil and the necessity for conserving gas will compel greater use of underground storage facilities which have been experimented with and found feasible.

Dry-gas wells may be turned on or off at will and an estimate of their capacity is solely a question of estimating the total quantity of gas recoverable without regard to time.

No satisfactory method of estimating future production of casinghead gas independent of future oil production is known, as the gas production is dependent entirely upon [fol. 407] the rate of oil production. I do not believe that production decline curves are of any value for such estimates. The best method of making such estimate is the gas-oil ratio. The future oil production is estimated by years by means of production decline curves, and to this is applied the gas-oil ratio, that is, the number of cubic feet of gas produced per barrel of oil from the same well, treated as an average for each field in order to avoid the

fluctuations of particular wells. The variation of the gas-oil ratio with the age of the well depends entirely upon methods of operation, and the trend among producers is to employ every possible means to hold down the ratio in order to obtain the maximum recovery of oil. Such production has been estimated for each of the principal producing oil fields and projected to the future upon the basis of information presently available. Where considerable new development remains, estimates as to the future were predicated upon assumed future wells. In estimating possibilities of deeper zones, it is necessary also to assume the time at which such zones would be developed, which could be done in a general way only and depends upon a survey of the entire oil production and demand in the Pacific Coast region.

While in general the gas-oil ratio of deeper zones has been found to be higher than that of the upper zones, we have in general given them the same ratio as the upper zones.

In passing through gasoline extraction plants, casing-head gas losses average 15 per cent, and in addition field uses range from 5 to 50 per cent. However, it would be [fol. 408] possible to cut down the losses because in the past the oil companies did not have enough return from the gas to justify the expenditure necessary to conserve it. Based upon this study I have estimated the amount of gas available to the public utilities serving Los Angeles as follows:

[fol. 411] No attempt has been made to determine whether the transmission lines are adequate to transport the gas available to the markets which require it. Pipe line capacities are dependent upon pressure as well as size of line and the capacity of a given line can be increased 100 per cent by additional compressor capacity when and if this is found economically necessary. It is assumed for the purpose of my study that natural gas is sufficiently desirable as a fuel that, when sufficient quantities are available for a probable life of 5 years or more, pipe line and compressor facilities will be provided to transport the gas to market rather than returning to substitutes for natural gas.

I do not consider that there are any serious hazards in the construction of a pipe line from producing centers to the Los Angeles District. If laid too close to the surface streams might wash it out, but with care the obstacles are not serious and not as great as encountered in the Panhandle region of Texas. If a break should occur the time required to repair it would be dependent upon its location and character. I am not familiar with the situation following the St. Francis Dam disaster. The importance of a break of one line when several transmission lines are available would depend upon the relative importance of the source of supply. When I speak of gas available to the Los Angeles distribution system, I refer to all available sources, neglecting, however, contractual obligations, which I have not gone into and about which I know nothing. I refer merely to the physical situation. From that standpoint there is nothing to prevent trans- [fol. 412] portation of gas from distant fields under conditions that exist in California.

Underground storage of surplus gas in depleted or partially depleted oil sands furnishes what I believe to be a practical method of conserving large quantities of natural gas. I think that such underground storage is entirely feasible from an engineering standpoint and from an economic standpoint once the owners of the property are brought to see its desirability.

I have made no studies of the actual requirements of utilities serving Los Angeles and have predicated my conclusions upon figures supplied by engineers of the Los Angeles Board of Public Utilities and Transportation, which figures I consider too high. These estimates are:

January, 1930, 157,587,000 cubic feet per day average and 315,174,000 peak day; January, 1935, 231,198,000 cubic feet per day average and 462,395,000 peak day; January, 1940, 318,695,000 cubic feet per day average and 637,390,000 cubic feet peak day; January, 1945, 420,039,000 cubic feet per day average and 840,078,000 peak day.

I am of the opinion that the estimated available gas is in excess of the domestic and commercial requirements of the Los Angeles Basin for a considerable number of years. I have taken no consideration of industrial demands, although I think the amount available will be enough for industrial consumers for the next 5 years. I do not think that there will be any hazard of an insufficient supply of natural gas for domestic and commercial uses for 15 years.

While the Santa Fe Springs field shows nearly 6,500,000 cubic feet of gas blown to the air in May, 1930, the production of that field will decline very rapidly in my opinion [fol. 413] and the total production of the field for the average of the year 1931 will be less than the present wastage.

In considering the requirements for natural gas I considered only the Southern Counties Gas Company, the City of Long Beach, the Los Angeles Gas and Electric Corporation and the Southern California Gas Company and confined myself to domestic and commercial uses.

Cross-examination:

I believe the price of oil will increase very substantially over the next 5-year period. For example, 25° gravity oil from Santa Fe Springs, now selling at $1.15, I would estimate will be worth $1.40 a barrel in 1932 and $1.65 per barrel in 1935. Under many contracts the price of gas varies directly with the price of oil, although some contracts are for a flat amount with a limited increase. In my study I considered as available natural gas, the amount coming from the gasoline absorption plant after the necessary lease uses and necessary uses for the proper and economical operation of the producing company's properties. The only case where I deducted prior contracts was in the Kettleman Hills field, where I considered the requirements of the San Francisco Bay region. The present use of gas through the pipe lines to San Francisco Bay is approximately 60,000,000 cubic feet per day.

Peak day requirements of the San Francisco region might exceed daily average by 50 to 60 per cent. The amount of gas used in San Francisco for space heating does not approximate the amount used in Southern California, where a dependable supply of natural gas has been [fol. 414] available for several years. Therefore, without a deep study of the matter I would be inclined to the conclusion that the variation between peak day and average day requirements in the San Francisco area regions could not be as great as in the Los Angeles area. A large increase in the use of natural gas may be expected if the company serving San Francisco puts in rates to make such use attractive. I am not familiar with the rates there since last September, when natural gas was brought in.

There was a great demand for gas for a period in 1925 and 1926, but the price paid was such that it was not economically desirable for the companies to collect gas that was being wasted. I am not familiar with the average price paid to the oil companies for gas in that period, although some contracts were for only 6 cents per thousand cubic f[illegible]. There was no incentive for the oil companies going to any great expense to increase the amount of gas available. It would take an appreciable assured demand, at prices equivalent to one-sixth of a barrel of oil, to justify an oil company making the expenditures required to gather and collect an appreciable quantity of gas. I have made no deduction from the quantity of available gas by reason of any prior contracts that may exist except as to the San Francisco Bay region usage of Kettleman Hills gas.

In the Santa Fe Springs field I have estimated that the gas oil ratio will not be as low as 1,000 cubic feet per barrel until 1945, although the ratio in the Meyer zone we find was materially less than 1,000 within a relatively short time after its peak, being approximately 800 for the years 1925 to 1928. There was no attempt at conservation while [fol. 415] these zones were being developed and gas was allowed to escape. Due to changed methods and conservation program, it is my opinion that the gas-oil ratio of the deeper zones will not diminish as rapidly as the upper zones of the Santa Fe Springs field.

My estimate of future available gas is made by first estimating the quantity of oil that will be produced, then ap-

plying the gas-oil ratio to that production, and deducting percentages (in the Santa Fe Springs field 40 per cent, and in the other fields 60 per cent), the balance being what I estimate will be available to the public utilities. It is a case of assumptions upon assumptions, and then a percentage of the assumption taken. The assumptions are just as good as the man who makes them.

[fol. 416] WARD H. RUPP was called as a witness on behalf of the City of Los Angeles and, having been duly sworn, testified as follows:

My occupation is that of a civil engineer. I attended Monmouth College. From 1901 to 1924 I was employed in various engineering capacities by Illinois Central Railroad, Missouri Pacific Railroad, United Sugar Company (in Mexico), Southern Pacific Company, Sumpter Valley Railroad, Union Pacific Railroad, Grand Trunk Railroad, United Sugar Company (at Tracy, California), Chicago, Milwaukee & St. Paul Railroad and the United States Railroad Administration. In January, 1924, I became assistant engineer with the California Railroad Commission, and while there made studies relating to the operating expenses and operations of the Pacific Electric Railroad and of the local railway system in Los Angeles. I was then transferred to the valuation department and worked on the valuation of Pacific Gas and Electric Company and Great Western properties in San Francisco and worked on various matters relating to electric railroads in the transbay suburban service, out of San Francisco; I also assisted Mr. Ready in the valuation of steam railroads for the Tax Commission. I assisted with the valuation of the properties of Key System Transit Company and Pacific Electric Railroad Company. Since January, 1930, I have been employed by the Board of Public Utilities and Transportation of Los Angeles working on this rate case.

Thereupon the City of Los Angeles offered in evidence, and there was admitted, Exhibit 61, which is in the following form:

[fol. 417] EXHIBIT 61

Board of Public Utilities and Transportation, Engineering Division, City of Los Angeles

C.R.C. Case No. 2747

Portion of California Railroad Commission Appraisal of Plant and Land of Los Angeles Gas and Electric Corporation Considered Used and Useful

Group	Historical reproduction cost, including 6% overheads	Historical reproduction cost, including 11.25% overheads	Reproduction cost new less depreciation, including 22.32% overheads, 4-year average
I. Intangible Capital	$377,935	$377,935	$427,406
II. Land	2,535,020	2,535,020	2,535,020
III. Production	5,408,079	5,675,931	6,069,531
IV. Distribution	36,174,104	37,965,746	39,942,163
V. General	2,748,333	3,069,175	2,857,661
VI. Materials and Supplies: Working Cash Capital	785,000	785,000	785,000
Total	$48,028,471	$50,408,807	$52,616,781
Less Land and Intangibles.	2,912,955	2,912,955	2,962,426
Total—Less Land	$45,115,516	$47,495,852	$49,654,355

[fol. 418]

Board of Public Utilities and Transportation, Engineering Division, City of Los Angeles

C.R.C. Case No. 2747

Summary Showing Estimated Savings in Allowances for Operation and Maintenance, Depreciation, Rate of Return, and Taxes (State) with Gas Production Plants, etc., Eliminated

	C.R.C. historical reproduction cost, including 6% overheads	C.R.C. historical reproduction cost, including 11.25% overheads	C.R.C. reproduction cost new less depreciation, including 22.32% overheads
Reduction in Operating Expenses	$482,255	$489,198	$528,226
Reduction A/C Rate of Return.	820,330	856,564	872,093
	$1,302,585	$1,345,762	$1,400,319
Amortization Allowance	⁎ 649,614	⁎ 687,409	.....
Sub-total	$652,971	$658,353	$1,400,319
Taxes (State) @ 7.5%	48,973	49,377	105,024
Total Estimated Savings.	$701,944	$707,730	$1,505,343

⁎ Based on present balance in depreciation reserve December 31, 1929.

[fol. 419]

Reduction in Operating Expenses	$482,255	$489,198	$528,226
Reduction a/c Rate of Return..	820,330	856,564	872,093
	$1,302,585	$1,345,762	$1,400,319
Amortization Allowance	* 613,890	* 651,685	.....
Subtotal	$688,695	$694,077	$1,400,319
Taxes (State)	51,652	52,056	105,024
Total Estimated Savings.	$740,347	$746,133	$1,505,343

* Based on revised balance of depreciation reserve.

[fol. 420]

Board of Public Utilities and Transportation, Engineering Division, City of Los Angeles

Case No. 2747

Comparison of Estimated Domestic and Commercial Requirements of Los Angeles Gas and Electric Corporation with Capacity of Plants Nos. 1, 2, and 3

		1929* Actual	1934*	1939* Estimated	1944*	Item No.
Requirement of Average Day	M³Btu	60,700	86,900	118,500	155,000	(1)
Capacity of Plants Nos. 1-2 & 3	"	59,100	59,100	59,100	59,100	
Ratio Plants Nos. 1-2 & 3 to Requirements	%	97.36	68.01	49.87	38.13	
Requirement of Average Month	M³Btu	1,847,400	2,643,000	3,604,600	4,714,500	(2)
Capacity of Plants Nos. 1-2 & 3	"	1,772,600	1,772,600	1,772,600	1,772,600	
Ratio Plants Nos. 1-2 & 3 to Requirements	%	95.95	67.07	49.18	37.60	
Requirement of Year	M³Btu	22,168,829	31,716,300	43,254,800	56,574,300	(3)
Capacity of Plants Nos. 1-2 & 3	"	21,271,500	21,271,500	21,271,500	21,271,500	
Ratio Plants Nos. 1-2-3 to Requirements	%	95.95	67.07	49.18	37.60	
Requirement of Peak Day	M³Btu	151,542	202,900	276,700	361,900	(4)
Capacity of Plants Nos. 1-2 & 3	"	59,100	59,100	59,100	59,100	
Ratio Plants Nos. 1-2 & 3 to Requirements	%	39.00	29.13	21.36	16.33	
Requirement of Peak Month	M³Btu	3,196,176	4,625,000	6,308,000	8,250,000	(5)
Capacity of Plants Nos. 1-2 & 3	"	1,772,600	1,772,600	1,772,600	1,772,600	
Ratio Plants Nos. 1-2 & 3 to Requirements	%	55.46	38.33	28.10	21.49	
Requirement of Average Day of Peak Month	M³Btu	103,102	149,200	203,500	266,100	(6)
Capacity of Plants Nos. 1-2 & 3	"	59,600	59,600	59,600	59,600	
Ratio Plants Nos. 1-2 & 3 to Requirements	%	57.81	39.95	29.29	22.40	

* Years Ending January 31, 1930, 1935, 1940 and 1945.

[fol. 421] I accepted the valuations prepared by the California Railroad Commission because they are the lowest values and I did not want to appear to be citing extreme limits of reductions that might be shown if other values were used. I have used a period of 25 years from January, 1930, for amortization of the gas manufacturing plants, eliminated from the rate base in this exhibit.

I eliminated from the appraisal made by the Commission portions of the plant and land constituting the production plant on Macy Street, the by-products plants at Aliso Street and Macy Street, with 2 or 3 other small parcels of land, also Holder No. 9 and the 60-inch pipe line that connects the production plant with the compressor plant at Ducommon Street. I eliminated Holder No. 9 because I could find no method by which that holder could be used for natural gas. It is now connected to a natural gas main.

I have deducted from production and operating expenses all the expenses estimated by the Commission's engineers chargeable to the Aliso Street or Macy Street plants. In estimating the reduction in the return I have taken 7½ per cent as the return because the Commission has stated several times they consider that a reasonable return for a utility with a settled business. I have used a 6 per cent annuity plus 6 per cent interest in the amortization of this plant. I have also eliminated from the operating expenses the depreciation on the production plant. The total value of land and plant and the reduction in materials and supplies which I consider should be eliminated is $10,937,727.

[fol. 422] Operating savings, which I estimate on the historical reproduction cost with 6 per cent overheads, is $740,347, and using 11.25 per cent overheads, $746,133, reproduction cost new, with 22.32 per cent overheads, $1,505,343.

The reasons why I believe the manufacturing plant should be eliminated for the rate base are:

1. We believe that the natural gas supply available to Los Angeles is ample for a period of 15 years, ending January, 1945, based on Mr. Dodge's testimony;

2. The production plants have not been in operation for more than 3 years. The reports to the Railroad Commission show that but 596,000 cubic feet of gas have been manufactured in that time. That was all in March, 1928.

In this connection I am referring to the entire production property, including Plants 1, 2 and 3, as a single unit;

3. We consider it unfair to burden the gas consumers with maintenance and operation charges, depreciation and taxes, plus a return, on a large investment in property not used and useful, and we do not think it fair that the consumers of the Los Angeles Gas and Electric Corporation should be obliged to pay increased rates to provide stand-by service for the Southern Counties Gas Company;

4. Plant No. 3 is of very little value as a stand-by unit, as it is capable of producing only about 40 per cent of the average requirements and in 15 years would be able to produce but 15 per cent of the estimated requirements. In this connection I consider Plant No. 3 alone, upon the [fol. 423] understanding that the Commission's engineers recommended that Plant No. 3 be considered a stand-by unit and in their exhibits provided for the operation of that plant only;

5. Plant No. 3 would be able to produce only about 16 per cent of peak day requirements for the year ending January, 1930, based on the Company's own figures. On the basis of estimate for the year ending January 1, 1945, it would be about 6 per cent of peak day requirements;

6. The plant is inadequate to supply a material portion of peak requirements of the peak month at the present time. The heating quality of the gas manufactured is such that the patrons would be required to consume approximately 1.8 times as many cubic feet of manufactured gas to secure the same amount of heat units produced by natural gas.

I consider that the trend of construction is toward apartments and flats in the larger cities and I believe that this would increase the consumption of gas through the installation of gas heating appliances.

Cross-examination:

I have had no experience in the construction or operation of gas plants with the exception that in the year 1909, in Mexico, for 6 months I operated a Loomis-Pettibone downdraft gas plant supplying gas for the operation of a 165-h.p.

engine on the United Sugar plantation. I have never had anything to do with the selling of gas or the estimating of gas sales or with determining the operating expenses of a [fol. 424] gas plant. My only experience in connection with gas plants has been working on this case for the past 6 months.

My belief that the plant should be eliminated from the rate base is predicated upon my estimate of making savings to the consumer by so doing. If it should develop that there was no saving to the consumer I do not think that it would be necessary to remove the plant from the rate base. The computation shown in my exhibit, indicating such saving, is the sole basis for my conclusion. My estimated savings are predicated on the recommendation and assumption that the plant be immediately dismantled and sold for scrap and the real estate disposed of as of January 1, 1930. I assume that there would be no increased hazard of the business of the Los Angeles Gas and Electric Corporation, referring to the dependency of the business on natural gas alone.

I have no direct knowledge of the operating expenses estimated by the Commission engineers, which I have eliminated by elimination of the gas plant. I do not know whether any part of these expenditures is incurred in the distribution of natural gas. I simply took out all expenses which the commission engineer attributed to the plants mentioned. If a large percentage of such expenditure is incurred in the distribution of natural gas, it would change my conclusion. I did not ask the Company for any information in this connection. In determining that Holder No. 9 should be eliminated, I looked at a map of the plant down there and then I asked one of the men if that holder was connected to a natural gas line, and he said it was not. I do not know whether the holder has been in use this year, [fol. 425] and if it should develop that it has in fact been in use it might change my opinion. The same applies to the 60-inch pipe line.

I arrived at the 25-year amortization period by considering the estimated life of 30 years used in the Company's depreciation studies. The plants were constructed in 1922 and 1923 and were operated through 1927. I took the remaining life for the amortization period.

I do not think any change in the design of gas manufacturing plants has been made since these plants were built or reconstructed in 1921 to 1924. If a plant were to be designed or built today it would be no more modern or efficient than the existing plants. I think the plant would become obsolete within 15 years, not because of change of design, but because I do not believe it could be kept in good operating condition without being used. I know nothing about the design of gas machinery.

Judging from the records of the construction of the existing plants, it would take about 2 years to build a new plant, although I have no independent judgment on this matter. The existing location would be a logical location for any such plant.

I believe the tendency of new construction is toward apartment houses and other multi-family dwellings. I did not say that that tendency would tend to increase the consumption of gas per family, but it would increase the consumption per meter because of the tendency to include large heating units and water heaters furnishing water to all apartments and similar items.

Redirect examination:

There is no physical or engineering reason why Holder [fol. 426] No. 9 could not be used for natural gas. However, I would consider it an inefficient unit for the natural gas system because of its small size. The only reason I would take the plant out of the rate base is because it seems to cost the consumer a great deal of money as a stand-by unit and I do not feel that in view of the ample supply of gas for 15 years, as testified to by Mr. Dodge, that the property is now used or useful. It has not in fact been used for the production of gas for the past 3 years and I see no necessity of its use up to about 1945.

[fol. 427] HARRY L. MASSER was called as a witness on behalf of the Los Angeles Gas and Electric Corporation and, having been duly sworn, testified as follows:

I am Vice-President and Executive Engineer of Los Angeles Gas and Electric Corporation and have been associated with that Company since April, 1924; I graduated from the University of California in engineering in 1914;

I was first employed in drafting work and machine shop supervision and operation; I was then employed in the engineering department of the Southern California Gas Company and worked up to the position of office engineer to the manager, when I left that company; during the war I was engaged in Ordnance work in the Navy until 1919; I then entered the gas and electric division of the California Railroad Commission, dealing with general gas rate matters and supervision of operations in the Los Angeles District in regard to apportionment of natural gas supply; since 1924 I have been with the Los Angeles Gas and Electric Corporation, first as gas engineer, later taking on other duties, and subsequently was made Vice-President and Executive Engineer, with general supervision over all engineering departments and considerable supervision over some of the operating departments; I have been continuously engaged in engineering matters, having to do with gas and electric operations, and my present duties involve the actual operation and management of many of the departments of the company, including also budgeting of expenses. My duties have also included the taking charge of various rate proceedings on behalf of the Company since 1924 and involve examination of its operating ex- [fol. 428] penses, estimates of its revenue and valuation matters.

We have recently found that the capital accounts of the Company as reported to the Commission in the past have been incorrect. We have made a very thorough study of our book figures and have found that in past years overhead costs charged to capital construction were utterly inadequate. As the property of the Company was built or extended, a charge was made, in addition to direct labor and material costs, for overhead expenses incurred in such construction, the percentage so charged varying from year to year. The overheads as charged included stores and tool expense, which is not a true overhead charge. For instance, in the year 1913 the percentage charged on the books was 3.64 per cent, of which 1.74 per cent was for stores and tool expense, leaving 1.90 per cent as the amount charged for true overhead items. We have found by study of our records and analysis of our costs that these overhead charges or percentages are utterly inadequate. Our capital figures as now set up on the books are below the

actual historical cost of the property. We have therefore made a study of our actual expense incurred historically for overhead charges, and as an average over the period from 1913 to 1929, inclusive, we have found the correct percentage to be 13.3 per cent. This requires a correction of the book figures from July 1, 1913, on.

We have not made any changes prior to 1913 for the reason that direct information as to the earlier years is not available and we have followed the practice of taking the [fol. 429] account as it stands for construction prior to 1913. In readjusting the figures, retirements have been charged on the same basis, that is, with the correct overheads. I believe it will be necessary to re-state the books of the Company because we have now developed the correct figures and our books should reflect the true situation.

In the future I anticipate that 13.3 per cent will be added to the cost of construction and will not appear in the operating account. I am unable to state how the officials of the Company have divided the clearing accounts for the items included in overheads between capital and operation in the past.

Thereupon the Company offered, and there was admitted in evidence, Exhibit No. 10.

[fol. 430] EXHIBIT 10

Summary of Revenues, Operating Expense, and Net Revenue, Gas Department, Year 1928

Gross Revenues:		
Domestic Gas Sales		$14,211,455.25
Industrial Gas Sales		520,121.09
Miscellaneous Operative Revenues		107,845.98
Total Gross Operative Revenues		$14,839,422.32
Operating Expense:		
Production		
Natural Gas Purchased—21,912,537 M. c. f.	$4,018,196.68	
Other Fuel	5,192.12	
Operation and Maintenance	467,333.25	
Total Production Expense		$4,490,722.05

Transmission	966.36
Distribution	847,060.13
Commercial	829,002.59
New Business	112,152.05
General and Miscellaneous	700,416.01
Subtotal Direct Operating Expense	$6,980,319.19
Depreciation, Net operating Charge	1,115,624.10
Uncollectibles	130,056.82
Taxes	1,545,357.55
Total Operating Charges	$9,771,357.66
Net Revenue	$5,068,064.67
Plus credit for overheads charged to operation	12,163.00
Adjusted Net Return	$5,080,227.67

[fol. 431] Estimate of Taxes Incurred by Gas Department, Year 1928

State Tax:

Operating Revenue, 1928:		
Domestic Gas Sales		$14,211,455.25
Industrial Sales		520,121.09
Other Operative Revenue		107,845.99
Total Operative Revenues		$14,839,422.33
Less Uncollectibles 1928	$130,056.82	
Less Company Use of Gas	13,037.92	
		143,094.74
Net Revenue Subject to State Tax		$14,696,327.59
State Tax (@ 7.5% of above		$1,102,242.60
Federal Tax		383,481.52
County & City Franchise & Misc. Taxes		21,796.00
Bondholders' Income Tax		27,852.50
Miscl. County & City Taxes on Operative Properties		11,399.70
Total Taxes Incurred Year 1928		1,546,772.32

[fol. 432]

Annual Gas Meter Statistics (as of Jan. 1st)

	Total ind. meters	Total sub. meters	Total all meters	Total closed meters	Total active meters	Total ind. active meters	Set during year	Removed during year	Independent gained during year	
									Active	Total
1911	84,773	.....	.....	2,111	.....	82,662	.....	.....	10,194	11,335
1912	96,108	.....	.....	3,252	.....	92,856	.....	.....	12,248	11,844
1913	107,952	7,723	115,675	2,848	112,827	105,104	32,202	18,134	13,417	14,068
1914	122,020	8,421	130,441	3,499	126,942	118,521	32,747	26,645	5,455	6,102
1915	128,122	8,407	136,529	4,146	132,383	123,976	37,516	32,399	4,495	5,117
1916	133,239	8,136	141,375	4,768	136,607	128,471	36,889	30,985	6,288	5,904
1917	139,143	7,777	146,920	4,384	142,536	134,759	32,096	26,456	4,199	5,640
1918	144,783	8,275	153,058	5,825	147,233	138,958	28,284	25,451	2,266	2,833
1919	147,616	8,075	155,691	6,392	149,299	141,224	18,562	10,613	11,218	7,949
1920	155,565	6,193	161,758	3,123	158,635	152,442	20,890	7,291	13,356	13,599
1921	169,164	5,678	174,842	3,366	171,476	165,798	30,473	8,379	21,634	22,094
1922	191,258	6,005	197,263	3,826	193,437	187,432	44,949	13,312	31,163	31,637
1923	222,895	6,969	229,864	4,300	225,564	218,595	59,496	13,760	46,579	45,736
1924	268,631	8,051	276,682	3,457	273,225	265,174	49,505	11,818	25,164	37,687
1925	306,318	10,271	316,589	15,980	300,609	290,338	40,420	20,720	16,537	19,700
1926	326,018	11,418	337,436	19,143	318,293	306,875	37,439	23,721	15,079	13,718
1927	339,736	12,405	352,141	17,782	334,359	321,954	31,053	13,610	14,602	17,443
1928	357,179	13,164	370,343	20,623	349,720	336,556	27,427	14,593	9,450	12,834
1929	370,013	12,884	382,897	24,007	358,890	346,006	27,412	18,855	9,462	8,557
1930	378,570	13,560	392,130	23,102	369,028	355,468	.....	.....	.....	.....

[fol. 433]

Historical Peak Day Sendout and Production Statistics

Year or winter season	Peak sendout		B.t.u. avg. value	Ind. active meters Jan. 1st	Total M'-Btu. sendout	Day's Mean temp.	Peak day sendout per meter		For month of January		Maximum gas production	
	Date	Mc.f.					M-Btu.	Cu. ft.	Sales Mc.f.	Sendout Mc.f.	Mc.f.	Date
1909-10	12-20-09	12,387	600x	64,480	7,432	...	108.5	192.0	313,813	344,195	12,395	12-20-09
1910-11	12-31-10	15,056	600x	77,560	9,039	...	113.5	194.2	314,157	395,530	14,922	12-31-10
1911-12	12-30-11	17,440	630x	90,440	10,990	...	121.4	192.8	367,508	396,186	17,462	12-30-11
1912-13	12-25-12	18,559	.....	.....	.....	...	.....	.....	.....	.....	18,422	12-25-12
	1- 7-13	25,687	671x	105,150	17,223	...	163.9	244.1	517,804	578,253	27,206	1- 7-13
1913-14	1-27-14	21,939	719x	118,420	15,752	...	132.9	185.1	461,500	521,227	22,009	1-28-14
1914-15	12-20-14	20,552	807	123,970	16,580	50°	138.8	165.7	432,224	495,582	.....	.....
1915-16	12-30-15	23,636	808	128,471	19,100	45°	148.6	184.0	557,215	631,755	11,695	12-30-15
1916-17	12-28-16	28,800	810	134,759	23,328	...	173.1	213.7	645,442	720,575	14,439	1-18-16
	1-17-17	29,586	800	134,759	23,660	45°	175.6	219.5	645,442	720,575	15,306	1-17-17
1917-18	2-18-18	27,002	809	138,958	21,840	48°	157.3	194.4	544,441	638,276	.....	.....
1918-19	12-31-18	31,869	813	141,224	25,909	45°	183.5	225.7	688,672	703,822	16,586	12-31-18
1919-20	11-28-19	35,325	737	152,442	25,681	...	168.5	231.7	760,455	879,837	22,048	12- 9-19
	1- 8-20	37,123	767	152,442	28,470	48°	165.8	243.7	760,455	879,837	.....	.....
1920-21	12-24-20	47,596	742	165,798	35,316	...	213.0	287.1	1,008,396	1,299,945	32,443	12-21-20
	1-11-21	52,296	716	165,798	37,450	48°	225.9	315.5	1,008,396	1,299,945	38,766	1-12-21
1921-22	12-23-21	53,054	744	187,432	39,472	52°	210.6	283.1	1,385,815	1,608,563	.....	.....
	1-20-22	70,651	625	187,432	44,157	42°	235.6	376.9	1,385,815	1,608,563	52,482	1-20-22
1922-23	2- 1-23	100,823	699*	218,595	70,550	42°	322.3	461.4	1,506,949	1,732,376	70,729	2- 1-23
1923-24	1- 2-24	99,825	840/	265,174	83,850	45°	316.0	376.0	1,729,328	2,036,069	.....	.....
1924-25	12-24-24	105,498	820	290,338	86,550	48°	297.8	363.5	2,087,820	2,254,664	55,485	12-24-24
	1-14-25	102,327	833	290,338	85,238	49°	293.6	352.4	1,878,442	2,214,676	51,755	1-14-25
1925-26	1-21-26	90,497	858	306,844	77,650	55°	253.1	295.0	1,878,442	2,214,676	.....	.....
1926-27	12-23-26	147,055	789	321,902	116,050	48°	360.5	457.0	2,440,776	2,658,170	75,272	12-23-26
	1- 6-27	106,203	834	321,902	88,573	53°	275.2	329.9	2,440,776	2,658,170	53,030	1- 6-27
1927-28	1-18-28	99,389	1,097	336,429	109,030	52°WB	323.3	295.2	1,924,402	2,183,548	.....	.....
1928-29	2- 9-29	129,494	1,106	345,808	143,220	46°	414.2	374.5	2,273,092	2,667,636	.....	.....
1929-30	1-11-30	136,205	1,113	355,214	151,542	44°	425.5	382.5	.....	2,871,676	.....	.....

x Estimated.
* Based on Total B.t.u. All Natural and Manufactured Gas Made and Mixed.
/ Estimated for Average Quality of Gas Actually Sent Out.

[fol. 436] Average Monthly Percentage and Accumulated Monthly Percentage of Gas Sales

	1921	1922	1923	1924	1925	1926	1927	1928	1929	Average
Monthly Percentage of Annual Gas Sales										
Jan	12.24	12.94	12.30	12.12	13.50	11.84	15.24	12.11	13.22	12.74
Feb	10.55	11.87	12.64	9.18	10.65	10.93	12.30	10.72	13.13	11.33
Mar	9.50	11.00	10.01	10.42	10.45	9.00	10.68	9.81	11.62	10.29
Apr	8.37	8.96	8.13	9.16	8.87	8.12	8.79	7.64	9.53	8.62
May	7.76	7.08	6.50	6.72	7.45	6.73	6.43	6.96	6.98	6.96
June	5.90	5.22	6.05	5.59	5.86	5.97	5.63	5.93	5.74	5.76
July	5.21	4.89	5.36	5.23	4.95	5.50	4.91	5.41	4.87	5.15
Aug	5.44	4.83	5.16	5.21	5.16	5.27	4.71	5.17	4.68	5.07
Sept	5.72	4.73	5.53	5.59	5.54	5.83	5.00	5.35	4.90	5.35
Oct	6.99	6.77	6.83	7.75	7.29	6.95	5.91	7.50	5.93	6.88
Nov	9.44	10.45	8.37	9.73	9.20	8.88	7.93	9.94	8.61	9.17
Dec	12.88	12.06	13.12	13.30	11.08	14.98	12.47	13.46	10.79	12.68
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Accumulated Monthly % of Annual Gas Sales										
Jan	12.24	12.14	12.30	12.12	13.50	11.84	15.24	12.11	13.22	12.74
Feb	22.79	26.01	24.94	21.30	24.15	22.77	27.54	22.83	26.35	24.07
Mar	32.29	35.01	34.95	31.72	34.60	31.77	38.22	32.64	37.97	34.36
Apr	40.66	43.97	43.08	40.88	43.47	39.89	47.01	40.28	47.50	42.98
May	48.42	51.05	49.58	47.60	50.92	46.62	53.44	47.24	54.48	49.94
June	54.32	56.27	55.63	53.19	56.78	52.59	59.07	53.17	60.22	55.70
July	59.53	61.16	60.99	58.42	61.73	58.09	63.98	58.58	65.09	60.85
Aug	64.97	65.99	66.15	63.63	66.89	63.36	68.69	63.75	69.77	65.92
Sept	70.69	70.72	71.68	69.22	72.43	69.19	73.69	69.10	74.67	71.27
Oct	77.68	77.49	78.51	76.97	79.72	76.14	79.60	76.60	80.60	78.15
Nov	87.12	87.94	86.88	86.70	88.92	85.02	87.53	86.54	89.21	87.32
Dec	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

[fol. 437] Summary of Revenues, Operating Expenses, and Net Revenue, Gas Department, Year 1929

Gross Revenues:		
Domestic Gas Sales		$14,957,171.96
Industrial Gas Sales		736,964.60
Miscellaneous Operative Revenues		107,071.65
Total Operative Revenues		$15,801,208.21
Expenses:		
Production:		
Natural Gas & Other Fuel	$4,150,935.43	
Operation & Maintenance	419,451.36	
Total Production Expense		$4,570,376.79
Transmission		6,260.21
Distribution		779,748.18
Commercial & New Business		998,471.91
General & Miscellaneous		800,286.24
Sub-total		$7,155,143.33
Taxes		1,632,886.74
Uncollectibles		179,478.31
Depreciation		1,143,285.60
Total Operating Charges		$10,110,793.98
Net Revenue		$5,690,414.23

[fol. 438] I have made a comparison of the actual gas sales and revenue of the Company in the year 1929 with those estimated by the Railroad Commission in Exhibit 2. The 1929 figures therein contained were actual for 9 months and estimated for the last 3 months as to domestic and commercial sales and revenue and were actual for 8 months and estimated for 4 months as to industrial sales and revenue. The comparison is as follows:

Comparison of Railroad Commission Estimates with Actual Sales and Revenue, 1929

Domestic and Commercial Sales, M.C.F.

1929	Actual	Mr. Brown's estimate	Excess of Mr. Brown's estimate Amount	Percent
October	1,018,736	1,163,509	144,773	14.21
November	1,479,928	1,593,523	113,595	7.68
December	1,854,138	2,254,406	400,268	21.59
Total			658,636	

Domestic and Commercial Revenue

October	$945,198	$1,054,605	$109,407	11.58
November	1,280,416	1,372,023	91,607	7.15
December	1,550,815	1,849,966	299,151	19.28
Total			$500,165	

	Industrial Sales, M.C.F.			
September	288,277	327,100	38,823	13.47
October	338,422	327,100	-11,322	-3.35
November	318,009	327,100	9,091	2.86
December	325,208	327,100	1,892	.58
Total			38,484	
	Industrial Revenue			
September	$53,437	$62,640	$9,203	17.22
October	61,947	62,640	693	1.12
November	60,028	62,640	2,612	4.35
December	60,406	62,640	2,234	3.70
Total			$14,738	

[fol. 439] Recalled.

Allocation to the gas department of value of the various parcels of land appraised by Mr. McGarry has been made wherever any of the parcels are used by other departments of the Company; areas and apportionments have been agreed upon by representatives of the Company and Mr. McAuliffe of the Commission's staff. In my opinion the allocation is reasonable and proper and all of the property is presently used and useful in the gas department and will be for the next 2 or 3 years.

The Pasadena office parcel (Item 2) was purchased about 2 years ago and construction of a district office was commenced in 1929; that office is now completed (June 24, 1930) and in actual service.

In 1929 sites were purchased for district offices in Inglewood (Item 4) and in Huntington Park (Item 5). In both districts it was felt that better service could be rendered by having books of account, shop facilities, etc., immediately available in the larger centers of population. Work is now under way in the construction of the Huntington Park building and the same will be completed in the fall of 1930, and plans are being prepared for the Inglewood office, construction of which will be started in the fall of 1930. The Inglewood office, however, will probably not be finished until early in 1931. Definite authorization for the construction of the Inglewood office has been given, work to be started during 1930.

The Belvedere Holder Site (Item 23) was purchased a few years ago when it was open unsubdivided property,

and that location was picked as a strategic site for a gas [fol. 440] holder in the eastern part of the city. It is contiguous to the Montebello transmission line and reasonably close to the transmission and feeder lines serving the eastern district of Los Angeles. There has been a material increase in the load in this area and it is felt that within approximately 2 years additional storage capacity will be required, particularly as the supply of gas from the east through the Montebello pipe line is expected to diminish.

The Los Angeles Gas and Electric Corporation offered, and there was admitted in evidence, its Exhibit No. 43, which is in the following form:

[fol. 441] EXHIBIT 43

Comparison of Expenses with Average Expenses of Twelve Utilities in the United States, Year 1929

	Distribution expense	Commercial and new business expense	General expense excl. of depreciation	Total exp. excl. of production and trans. expense
Expense per Meter:		Dollars per Meter		
Average of Twelve Utilities	$3.30	$3.19	$3.39	$9.88
Los Angeles Gas and Electric Corporation	2.25	2.88	2.28	7.41
Expense per M Cu. Ft. Sold:		Cents per M. cu. ft.		
Average of Twelve Utilities	8.46	8.32	7.31	24.08
Los Angeles Gas and Electric Corporation	3.70	4.74	3.76	12.20
Expense per Million B.t.u. Sold:		Cents per million B.t.u.		
Average Twelve Utilities	15.36	15.21	13.37	43.94
Los Angeles Gas and Electric Corporation	3.30	4.23	3.36	10.89

[fol. 442] Gas Department Expense per Meter

Comparison of Distribution, Commercial and New Business, and General Expenses with Twelve Representative Utilities in the United States, Year 1929, on a Per Meter Basis.

Company No.	Distribution expense	Commercial & new business expense	General expense excl. of depreciation	Total exp. excl. of production and trans. expenses
1.....	$1.95	$3.33	$4.51	$9.79
2.....	3.85	3.78	2.70	10.33
3.....	4.69	2.94	3.12	10.75
4.....	3.04	2.72	2.07	7.83
5.....	2.18	2.74	2.07	6.99
6.....	3.59	3.84	2.23	9.66
7.....	3.63	2.87	4.13	10.63
8.....	2.24	3.61	2.62	8.47
9.....	2.64	5.05	2.55	10.24
10.....	2.78	2.50	2.07	7.35
11.....	3.85	2.49	2.28	8.62
12.....	5.13	2.43	3.53	11.09
Average of Twelve Utilities.....	$3.30	$3.19	$3.39	$9.88
Los Angeles Gas & Elec. Corporation (Year 1929)	$2.25	$2.88	$2.28	$7.41

Note.—The twelve Utilities used in the above comparison supply gas service in the following Cities: Boston, Mass.; Brooklyn, N. Y.; Chicago, Ill.; Milwaukee, Wis.; Minneapolis, Minn.; Oakland, Cal.; Portland, Ore.; Providence, R. I.; San Diego, Cal.; San Francisco, Cal.; Seattle, Wash.; Springfield, Mass.

[fol. 443]

Gas Department

Comparison of Expenses per M. Cu. Ft. and per Million B.t.u. Sold with Twelve Representative Utilities in the United States, Year 1929

Company No.	B.t.u. Value Of Gas	Distribution expense		Commercial and new business exp.		General expense		Total	
		Cents per M.Cu.Ft. Sold	Cents per M2B.t.u. Sold	Cents per M.Cu.Ft. Sold	Cents per M2B.t.u. Sold	Cents per M.Cu.Ft. Sold	Cents per M2B.t.u. Sold	Cents per M.Cu.Ft. Sold	Cents per M2B.t.u. Sold
1	534	4.30	8.04	7.36	13.76	9.98	18.66	21.64	40.46
2	548	11.84	21.55	11.65	21.20	8.30	15.11	31.79	57.86
3	547	14.18	25.95	8.87	16.23	9.43	17.26	32.48	59.44
4	530	5.57	10.53	4.98	9.41	3.79	7.16	14.34	27.10
5	546.6	6.12	11.20	7.71	14.11	5.81	10.63	19.64	35.94
6	510	9.30	18.23	10.10	19.80	5.80	11.37	25.20	49.40
7	533	11.28	21.21	8.90	16.73	12.83	24.12	33.01	62.06
8	570.4	6.70	11.73	12.80	22.40	6.50	11.38	26.00	45.51
9	505	7.24	14.34	11.65	23.07	8.46	16.75	27.35	54.16
10	639.2	6.03	9.43	5.43	8.50	4.49	7.02	15.95	24.95
11	651.2	7.79	11.96	5.05	7.75	4.61	7.08	17.45	26.79
12	552	11.15	20.20	5.28	9.57	7.67	13.89	24.10	43.66
Average of twelve utilities		8.46	15.36	8.32	15.21	7.31	13.37	24.08	43.94
Los Angeles Gas and Electric Corporation—Year, 1929	1,120	3.70	3.30	4.74	4.23	3.76	3.36	12.20	10.89

NOTE.—The twelve utilities included in the above comparison supply gas service in the following cities: Boston, Mass.; Brooklyn, N. Y.; Chicago, Ill.; Milwaukee, Wis.; Minneapolis, Minn.; Oakland, Calif.; Portland, Ore.; Providence, R. I.; San Diego, Calif.; San Francisco, Calif.; Seattle, Wash.; Springfield, Mass.

[fol. 444] The purpose of this exhibit is to compare the unit operating costs of this Company as against other large gas companies in the country. Production expense, which varies materially, dependent on the kind of gas distributed and the conditions under which manufactured, has been eliminated and comparison confined to distribution, commercial and new business and general expense. Under various accounting systems there will be variation between charges to those accounts and comparison should be made with the 3 groups of expenses as a unit rather than individually. For the 12 utilities shown the average expense for the 3 groups of accounts was $9.88 per meter, whereas for the Los Angeles Gas and Electric Corporation it was $7.41. 12 cities were selected as representative cities throughout the country. There are a number of conditions which might affect expenses in one community or another. Operating conditions in Los Angeles are very difficult because of the poor load factor. In summer time the send-out will drop to 28,000,000 or 29,000,000 cubic feet and in the winter a peak demand of nearly 150,000,000 cubic feet will be experienced. When a greater volume of gas is being used it flows through the pipes at a high velocity, tending to stir up the rust on the inside of the pipe, clogging openings and increasing service costs. While dust traps and filters have been installed, these difficulties have not been entirely eliminated. Other cities where loads are more evenly distributed throughout the year do not encounter these difficulties. The large increase in population requires additional expenses for solicitation in competition [fol. 445] with electricity and oil.

On a weighted average meter basis the costs shown in Exhibit 43 would be $3.083 for distribution expense, $3.30 for commercial and new business expense, $3.228 for general expense, and $9.631 for the three groups of accounts, compared to $7.41 for the Company.

Cross-examination:

I believe that the difference in operating cost between Los Angeles and other cities mentioned is due largely to the efficient operation of the Company. Undoubtedly labor costs vary widely in all of these cities. It would be impossible and improper, in my mind, to try to make a comparison strictly for one individual company or one individual

locality, because of these many factors that may not sufficiently closely parallel our conditions here and make a comparison really reliable.

Natural gas is drier than manufactured gas and there probably is less corrosion and deterioration in the mains. Pittsburgh is the only city served by natural gas which I thought could be compared with Los Angeles, but I could not get satisfactory figures from the utilities serving that city. I have not obtained costs from companies serving Denver, Houston or New Orleans, cities served with natural gas. Twelve other cities might be selected for comparison, and results might be radically different from those here shown. All the cities listed are served with manufactured gas, except Oakland and San Francisco, where natural gas service has recently been inugurated. The statistics given came from the reports of the American Gas Association, and information was also requested for New York, Newark, N. J., Detroit, Baltimore, St. Louis, [fol. 446] Denver, Salt Lake City and Pittsburgh, the last three being served with natural gas. The Gas Association advised that statistics of this character were not available except for the 12 cities shown in Exhibit 43.

Recalled.

Thereupon the Los Angeles Gas and Electric Corporation offered and there was admitted in evidence its Exhibit No. 44, which is in the following form:

[fol. 447]

EXHIBIT 44

Net Profits Statement—Gas Department

	1929			1930		
	Total for month	Accumulated total for year	Total for 12 mos. ending	Total for month	Accumulated total for year	Total for 12 mos. ending
Jan	$571,830.69	$571,830.69	$3,025,552.83	$556,627.04	$556,627.04	$3,519,499.58
Feb	672,018.67	1,243,849.36	3,285,007.11	430,558.84	987,185.88	3,278,039.75
Mar	546,460.19	1,790,309.55	3,501,904.06	412,732.15	1,399,918.03	3,144,311.71
Apr	406,927.71	2,197,237.26	3,738,414.49	229,893.10	1,629,811.13	2,967,277.10
May	254,976.47	2,452,213.73	3,802,813.38	241,911.16	1,871,722.29	2,954,211.73
June	125,572.44	2,577,786.17	3,818,866.72			
July	49,277.98	2,627,064.15	3,796,634.38			
Aug	26,500.81	2,653,564.96	3,774,445.24			
Sept	45,143.15	2,698,708.11	3,757,899.37			
Oct	79,407.15	2,778,115.26	3,611,890.39			
Nov	259,526.98	3,037,642.24	3,509,673.76			
Dec	497,060.99	3,534,703.23	3,534,703.23			
Total	$3,534,703.23					

[fol. 448]

EXHIBIT 44

Net Profits Statement—Total Gas and Electric Departments

	1929			1930		
	Total for month	Accumulated total for year	Total for 12 mos. ending	Total for month	Accumulated total for year	Total for 12 mos. ending
Jan	$804,173.42	$804,173.42	$5,019,831.42	$736,130.82	$736,130.82	$5,764,666.35
Feb	881,419.89	1,685,593.31	5,323,737.45	580,984.08	1,317,114.90	5,464,230.54
Mar	767,708.22	2,453,301.53	5,579,490.42	561,599.77	1,878,714.67	5,258,122.09
Apr	594,252.87	3,047,554.40	5,873,014.55	341,314.13	2,220,028.80	5,005,183.35
May	422,518.51	3,470,072.91	5,957,003.80	365,632.26	2,585,661.06	4,948,297.10
June	290,183.20	3,760,256.11	5,995,443.31			
July	184,096.70	3,944,352.81	5,978,296.15			
Aug	173,768.89	4,118,121.70	5,968,346.85			
Sept	214,931.82	4,333,053.52	5,970,913.92			
Oct	282,577.54	4,615,631.06	5,856,182.35			
Nov	499,601.31	5,115,232.37	5,815,419.68			
Dec	717,476.58	5,832,708.95	5,832,708.95			
Total	$5,832,708.95					

[fol. 449] In these figures the net profits are those available for dividends on stock, including both common and preferred. It shows the amount available after payment of operating expenses, depreciation, taxes and bond interest. The net profits increased substantially up to August, 1929, but beginning September, 1929, they began to decline and have declined generally since that time. For the first 5 months of 1930 compared to the first 5 months of 1929 the net profits have been reduced approximately $580,000, or 23.6 per cent. The gross revenues for these months declined $365,000, or 4.45 per cent. The operating expenses, however, have been approximately $133,000 higher for the first 5 months of 1930 than for the same period in 1929.

In the electrical department a decline of 30 per cent in net profits was experienced in the first 5 months of 1930 compared to 1929. There has been a rate reduction seriously impairing the revenues and net profits. While there has been some increase in per meter sales, it is less than the loss in revenue due to reduced rates. Power sales particularly have shown a decline because of economic conditions.

Cross-examination:

The temperatures during the first four months of 1929 were below normal. In January the temperature was .9 per cent of a degree below normal; in February 2.3 degrees below normal; in March 1.3 degrees below normal; and in April 2.7 degrees below normal. All the other months of 1929 were substantially above normal; December being 6.2 degrees above normal, the greatest deviation we have had in that month for 10 years. The temperatures for the [fol. 450] first 4 months of 1930 were: January .1 per cent of a degree below normal; February 2.7 degrees above norrmal; March 2.3 degrees above normal and April 3.4 degrees above normal.

Recalled.

Thereupon the Los Angeles Gas and Electrical Corporation offered and there was admitted in evidence its Exhibit No. 45, which is in the following form:

Exhibit 45

Comparison of Gas Rates in Large Cities in the United States Based on Monthly Consumption of Five Million B.t.u. per month

City	Average rate per million B.t.u.
Los Angeles Gas and Electric Corporation	$.764
San Francisco, Calif.	.859
Oakland, Calif.	.859
Denver, Colo.	.99
Salt Lake City, Utah	.99
Milwaukee, Wis.	1.43
Minneapolis, Minn.	1.63
Chicago, Ill.	1.73
Portland, Ore.	1.88
Providence, R. I.	1.90
Boston, Mass.	1.92
San Diego, Calif.	1.95
Brooklyn, N. Y.	1.99
Springfield, Mass.	2.16
Seattle, Wash.	2.43

This statement compares the cost of gas to consumers in various large cities of the United States. Comparison [fol. 451] has been made on the B.T.U. basis in order to have a comparison applicable to the various kinds of gas distributed, which includes both natural and manufactured, in various cities. My source of information is the rate list of the American Gas Association. Of the cities shown Los Angeles, San Francisco, Oakland, Denver and Salt Lake use natural gas. Los Angeles has one of the most unfavorable load factors of any city in the country, particularly considering its size, and as the city grows the numerical difference between the volume of gas sold on a minimum day and a maximum day is increasing, presenting a tremendously difficult operating problem. It is, however, more favorably situated in respect to climate and the availability and cost of natural gas.

Recalled.

Straight natural gas service was started about February, 1927. During the years 1928 and 1929 the supply of gas

available in the oil fields of the Los Angeles Basin and other fields from which the local distributing companies are obtaining their supply was, with few exceptions, adequate to meet the requirements. There have been, however, a few occasions when it was necessary to cut off industrial consumers on account of shortage of gas. The continuance of the present happy situation does not appear probable. We will have to go farther afield for natural gas supply, to Santa Barbara, Ventura, Kern and Fresno Counties, where we will be dependent upon long pipe lines, and the longer the pipe line the greater the hazard of interruption of supply.

When the St. Francis Dam broke, on March 13, 1928, it washed out two 12-inch pipe lines from the Midway field [fol. 452] belonging to the Southern California Gas Company, also that company's Ventura line and also the Southern Counties' Gas Company line. It was 3 or 4 days before it was possible to restore temporary lines across the break, even though the water subsided almost immediately. In 1926 several lines were washed out in an ordinary winter flood. It is for this reason that it is necessary to maintain gas generating plants in readiness to serve when there is a possibility of any interruption of the gas supply. The plant of the Company, upon a heat unit basis, can barely supply the equivalent of one of the lines from the Ventura field.

The wide variation between summer and winter demand, ranging from approximately 28,000,000 cubic feet to 150,000,000 cubic feet per day, creates an additional difficulty and hazard. The diminution of gas supply in the local fields increases the risks of gas shortages, such as have been encountered in the past. During the winters of 1920-1921 and 1921-1922 the situation was critical. Sufficient natural gas could not be obtained to maintain the supply of mixed gas then being served and the Commission itself placed an advertisement in the Los Angeles papers on January 13, 1921 advising the public as to the shortage and urging the most economically possible use.

There are now 3 lines from Ventura County. Lines are being built to the Elwood field in Santa Barbara County and lines have been built to the Kettleman Hills field in Fresno County. While it appears that a large supply of gas is available in that field, the great distance between

the field and Los Angeles creates an additional hazard. [fol. 453] The supply may not last as long as now estimated. In the Midway-Sunset field from 1910 to 1913, a large amount of gas was produced, and the supply at first was thought to be unlimited. I have seen wells there at pressures of 2,000 pounds, and it was thought the gas could be flowed to Los Angeles by natural pressure. But soon after the line was built the pressure dropped off and compressors were required. Within 5 or 6 years there was not enough gas to load the line to capacity and we again faced a shortage of gas. Such experiences indicate that complete confidence cannot be placed on the apparent supply in the Kettleman Hills district.

A further hazard in natural gas service is competition with other fuels, particularly in Los Angeles, where the Bureau of Power and Light is in competition, carrying on extensive advertising and solicitation for electric cooking and to a lesser degree water heating. The completion of the Boulder Dam project will greatly enhance the supply of power both to the Municipal Bureau and the Southern California Edison Company, inducing greater activity in promoting additional domestic use for heating and cooking purposes.

There is also a potential hazard of municipal competition. Certain districts have taken over gas distribution facilities and others are threatening to establish competitive facilities. Economic depressions reduce the use of gas and the income of the company and may tend to diminish the values of its properties, constituting an additional hazard. There is always a lag between the experiencing of an inadequate return under rates fixed by the Commis- [fol. 454] sion and obtaining of any relief from the Commission.

Based upon the investigations of Mr. Simmons and Mr. Spencer, and analysis of the available pipe line and other distribution facilities, I have estimated that the natural gas available to the utility companies of Los Angeles coming from the Los Angeles Basin oil fields will be 219,050 m. c. f. per day in January, 1931, and 138,600 m. c. f. in January, 1932. The total supply available by pipe lines from the northern fields is 142,500 m. c. f. per day, making the aggregate available as of January, 1931, 361,550 m. c. f., and as of January, 1932, 281,100 m. c. f. per day. There

are 3 distributing companies in the Los Angeles district whose combined peak output in January, 1930 was in excess of 475,000 m. c. f. There is a potential winter demand of 430,000 m. c. f. even after eliminating the greater part of the industrial load, indicating that there will be a shortage of 68,450 m. c. f. in January, 1931, and of 170,900 m. c. f. in January, 1932.

In view of these conditions the full capacity of the stand-by plants doubtless will be required within the next 2 years. Even if new lines are constructed from the more remote fields, the cost must necessarily be higher and the hazard in interruption of supply greater, and therefore there would be a greater need for the stand-by plants. In my opinion the gas manufacturing plant is used and useful in the service of the public. It is kept in excellent operating condition and it is necessary that such a facility be maintained to properly serve the public.

Thereupon the Los Angeles Gas and Electric Corpora-[fol. 455] tion offered and there was admitted in evidence its Exhibit No. 49, which is in the following form:

EXHIBIT 49

Summary of Historical Gas Meters, Sales, Revenues, and Rates per M.c.f. and per M2B.t.u., 1891 to 1929

	Average ind. act. meters for year	Domestic gas sales, m.c.f.	Sales per meter, m.c.f.	Average rate per m.c.f.	Average revenue per meter	B.t.u. quality	Total M²B.t.u. sales	Rate per M²B.t.u.
1891	2,709	99,092	36.579	1.9815	72.4813	600	59,455	$3.3025
92	3,078	115,616	37.562	1.9875	74.6545	600	69,370	3.3124
93	3,508	124,712	35.551	1.9888	70.7038	600	74,827	3.3147
94	4,001	141,273	35.310	1.9857	70.1151	600	84,764	3.3095
95	4,649	148,219	31.882	1.9362	61.7299	600	88,931	3.2270
1896	5,207	155,646	29.892	1.8168	54.3078	600	93,388	3.0281
97	5,563	162,933	29.289	1.7414	51.0039	600	97,760	2.9034
98	6,023	164,160	27.256	1.6871	45.9836	600	98,496	2.8107
99	6,782	176,089	25.964	1.6318	42.3681	600	105,653	2.7196
1900	7,921	217,599	27.471	1.5324	42.0966	600	130,559	2.5540
1901	10,317	310,964	30.141	1.3514	40.7325	600	186,578	2.2524
02	15,328	503,062	32.820	1.0000	32.8200	600	301,837	1.6667
03	22,711	794,582	34.987	.9660	33.7974	600	476,749	1.6101
04	30,323	1,040,119	34.301	.8951	30.7028	600	628,664	1.4918
05	38,514	1,308,203	33.967	.8419	28.5968	600	791,652	1.4031
1906	48,333	1,718,054	35.546	.7962	28.3017	600	1,037,881	1.3270
07	55,280	2,037,625	36.860	.7493	27.6192	600	1,231,030	1.2489
08	59,428	2,108,767	35.484	.7453	26.4462	600	1,274,631	1.2422
09	66,378	2,407,108	36.264	.7999	29.0076	629	1,514,071	1.2717
10	76,141 a	2,792,999	36.682	.7999	29.3419	623	1,740,038	1.2840

EXHIBIT 49 (continued)

Summary of Historical Gas Meters, Sales, Revenues, and Rates per M.c.f. and per M2B.t.u., 1891 to 1929

	Average ind. act. meters for year	Domestic gas sales, m.c.f.	Sales per meter, m.c.f.	Average rate per m.c.f.	Average revenue per meter	B.t.u. quality	Total M²B.t.u. sales	Rate per M²B.t.u.
1911	86,081 a	3,241,326	37.654	.7999	30.1194	626	2,029,070	1.2778
12	97,532 a	3,635,105	37.271	.7751	28.8888	629	2,286,482	1.2336
13	111,362 a	3,985,299	35.787	.7291	26.0923	671	2,674,136	1.0865
14	119,962 a	4,018,730	33.500	.6913	23.1586	710	2,853,298	.9736
15	125,041 a	3,826,282	30.600	.6800	20.8080	816	3,122,246	.8333
1916	130,387 a	4,331,911	33.223	.6800	22.5916	820	3,552,167	.8293
17	135,840 a	4,676,891	34.173	.6809	23.2684	821	3,839,728	.8293
18	138,270 a	4,837,428	34.530	.6817	23.5391	816	3,947,341	.8355
19	144,697 a	5,785,557	39.402	.7309	28.7989	809	4,680,516	.9035
20	157,355 a	7,197,406	45.734	.7367	33.6922	806	5,800,303	.9141
1921	174,778 b	8,889,309	50.861	.7470	37.9927	767	6,815,850	.9742
22	199,369 b	11,408,758	57.224	.7243	41.4497	751	8,569,423	.9643
23	236,030 b	12,255,996	52.070	.6871	35.6800	820	10,043,537	.8385
24	276,183 b	14,254,865	51.622	.6901	35.6221	856	12,209,013	.8057
25	295,192 b	15,479,589	52.439	.6913	36.2534	855	13,228,111	.8090
1926	310,050 b	15,849,349	51.119	.6932	35.4345	850	13,478,974	.8151
27	325,086 b	16,006,037	49.236	.8764	43.1518	1,064	16,986,638	.8258
28	336,309 b	15,892,204	47.241	.8942	42.2635	1,110	17,616,036	.8058
29	346,911 b	17,189,841	49.543	.8701	43.1248	1,120	19,249,135	.7770

a. Average of monthly mean Ind. Act. Meters for year.
b. Weighted Average Ind. Act. Meters for year.

[fol. 457] There has been a progressive decrease in the average rate received by the Company per thousand cubic feet of gas sold from $1.98 in 1891 to 87 cents in 1929. While a lower rate existed in 1915 and 1916, this was for manufactured gas of about half the fuel value of the gas now supplied. On the basis of heating value, the cost to the consumer has declined from $3.30 per million B. T. U.'s in 1891 to 77.7 cents in 1929.

Cross-examination:

The manufacturing plant was in operation this last winter from November to March. It was kept hot and ready to produce gas during this period. The last time it actually manufactured gas was in 1928, following the St. Francis Dam disaster, when it manufactured gas during one day.

In the fall when we start up the plant, we start with wood fires and gradually bring up the plant to an operating temperature. The heating is done gradually so as not to injure the brick and takes about a week. I was informed of the St. Francis disaster about 3 A. M. and immediately gave orders to place the plant on a gas producing basis. It was then in operation and hot. Within about ten hours we were actually producing gas. We found, by measuring our requirements against our supply, that we could pull through by cutting off some of the industries. We did start in and manufacture gas, but the depletion of gas in storage did not reach a critical point in the period that was before us at that time. Every winter we have operated the plant as a stand-by or emergency plant.

The total demand for gas in Los Angeles will, I believe, [fol. 458] exceed 361,000,000 cubic feet in January, 1931. During January, 1930, there was an actual load of 475,000,000 cubic feet and the load may well exceed 500,000,000 next year, because 1930 was not as cold as it has been in the past. While the industrial load can be discontinued, it takes time to notify industrial consumers by telephone or by personal call of a representative of the Company, and as the day's requirements are estimated from midnight to midnight, it is not always possible to determine until 10 o'clock in the morning whether it will be necessary to shut off industrial consumers. No definite rule can be laid

down in advance. It is altogether probable, in my opinion, that we will be manufacturing gas in January, 1931, and I think we will have to produce a whole lot of it in January, 1932. While there will be a substantial curtailment of the gas supply to industries, under practical operating conditions not all of the industrial load can be discontinued.

A break in a pipe line, even if repaired within six hours, would interrupt the supply and approximately one-fourth of the day's supply through that line would be lost. In the mountainous territory traversed by the pipe lines a break cannot be repaired as rapidly as new line can be laid in open country. Such breaks would not ordinarily exceed a thousand feet. When the St. Francis Dam went out there were a series of breaks, occurring at a number of different places, over a considerable distance on five separate lines.

What we have to fear most is floods from natural causes, such as rainfall and cloudbursts in the mountains, where [fol. 459] the flow of water would continue for a longer time than when the dam broke. In 1926 breaks were caused from such causes. While the pipe line companies have endeavored to protect the lines by using the best possible construction when they are installed, in spite of every precaution lines have been washed out. In 1917 I also had experience with a line of Southern California Gas Company from Coyote Hills being washed out, and it was several days before anything could be done with it. These breaks all caused interruption of the gas supply to Los Angeles. At that time a mixed gas was being supplied and additional manufacturing was required to supply the deficiency. Such conditions usually occur during rainy weather, when demands are heavy and require all possible generating capacity to make up the loss.

At the time of the St. Francis Dam disaster, March 13, 1928, our plant was hot. We started it up between 2 and 3 o'clock A. M. and immediately commenced the manufacture of gas. On March 13th the send-out was 60,000,000 cubic feet. On the 14th it dropped to 40,000,000 cubic feet, nearly 100 million cubic feet less than our peak load. Because of these fortunate conditions we were able to discontinue the manufacture of gas, but the 500,000 cubic feet manufactured went into our system and was mixed with the natural gas in storage.

While the various transmission lines throughout the Los Angeles Basin are largely interconnected at the present time, the load requirement in the various districts must be considered in determining the possibility of obtaining gas in Los Angeles.

[fol. 460] Redirect:

Additional lines are being constructed from the north, which would increase the capacity from those fields between 40 and 50 million cubic feet per day. The Kettleman Hills field is approximately 200 miles from Los Angeles, traversing a mountainous country, with considerable danger of slides and crossing a number of streams; the pipe line from the Ventura fields is 80 miles long, also crossing mountains and streams.

The manufacturing plant, on a B. T. U. basis, could supply about one-third of the peak day requirements, and if a single one of the major pipe lines from either the Ventura or the San Joaquin Valley fields were to go out, the entire capacity of the plant would be required to supply the deficiency.

Due to the wide variation between summer and winter loads, being more extreme in Los Angeles than any other large city that I know of, it is difficult to arrange contracts for the purchase of gas on an economical basis. As the peak loads become more extreme, we are reaching a position where it will be impossible to negotiate appropriate gas contracts, and it is probable that to meet such conditions a supply of mixed gas may be required. Similar plans have been tried in Louisville, Kentucky, where there are somewhat similar fluctuations.

Due to the difficult nature of the territory traversed by the pipe lines several days would be required to re-establish service if a substantial break occurred, because of the necessity of allowing the water to subside and the difficulty of access to the line to replace pipe.

I consider the gas manufacturing plant necessary for [fol. 461] proper service to our customers irrespective of the quantity of natural gas available in the fields. It is the actual delivery of gas to the city rather than the quantity available in the fields that is important. Moreover, the differential between summer and winter use may within

a few years require that during the winter time gas be manufactured and mixed with natural gas, requiring the use of the plant, apart from any interruptions in service due to breakage of pipe lines or other causes. In addition to other conditions previously mentioned, there is a substantial hazard to the pipe lines from earthquake. Several of the lines were broken in the Santa Barbara earthquake a few years back, and a number of transmission lines have more recently been broken in earthquakes.

The balance in the depreciation reserve as of December 31, 1929, attributable to the gas production plant is approximately $1,500,000. The investment in gas production plant, as testified to by Mr. Luick, amounts to $12,000,000.

Cross-examination:

The capacity of the manufacturing plant on the B. T. U. basis is less than the capacity of the 15-inch pipe line from the Ventura field; if that line went out during the winter period it would be necessary to start up the plant; the plant has a capacity of approximately one-third of peak day requirements on the B. T. U. basis; it would be necessary to start up the plant if the Ventura line went out because the other available sources of supply would be insufficient to provide for distribution requirements.

During a period of heavy demand, other conditions being [fol. 462] the same, a rainy day would lead to a greater use of gas than a sunny day of the same temperature. While the past few years have been a period of less than normal rainfall, if a series of rainy years should follow it might be that some additional amount of gas would be consumed over that based on temperature estimates, although consideration must be given to other factors affecting sales. My estimate of peak day demand is based on a mean daily temperature of 42 degrees for the peak day. At no time since 1909 have we experienced a mean daily temperature of less than 42 degrees. I see no reason why we should not experience just as low or lower temperature in the future.

Direct examination:

I have made an estimate of the capital expenditures made and to be made by the Company during the year 1930,

taking into consideration all modifications of the estimates which have been made during the past 5 months of the year. All of these additions and betterments are necessary to be made for proper service to the public. The estimate includes overheads at 14½ per cent, which have been credited to estimated operating expenses for the year 1930. In my opinion such overhead charges are reasonable and any substantially different charge would not be justified. The gross amount of such additions and betterments so estimated is $1,831,406, retirements from capital $350,000, and the net additions and betterments for the year for the gas department $1,481,406.

Thereupon the Company offered and there was admitted in evidence Exhibit 42A, which is in the following form:

[fol. 463]

EXHIBIT 42A

A & B's & Capital under Construction 1930

Acct. No. C.R.C. Co.			Est. ½ net A's & B's 1930	Work in progress 1-1-30	Work in progress 1-1-31	Net capital under construction: Less OH	Net capital under construction: Incl. 14.48% OH	Average A's & B's & net cap. under const. year 1930
		Production:						
311	237	Land						
312	240	Structures	$1,070					$1,070
313	241	Boiler Plant Eq.	193					193
314	242	Gas Generators						
	243	Purification App.	312					312
	244	Main Pipe Lines	6,023					6,023
	245	Accessory Eq.	8,982	$6,662	$5,000	$1,662	$1,903	10,885
315	246	Gas Storage Eq.	−27,000					−27,000
316	247	Misc. Production Eq.	1,580					1,580
317	248	By-Product Struct.	88					88
	249	" Eq.						
		Total Production	−$8,752	$6,662	$5,000	$1,662	$1,903	−$6,849
		Distribution:						
351	267	Land						
352	270	Structures	$147,647	$245,864		$245,864	$281,465	$429,112
353	271	Distr. Station Eq.	1,530					1,530
354	272	Distr. Storage Eq.						
355	273	Distr. Mains	217,225	75,666	75,000	666	762	217,987
356	274	Dist. Reg. & Meters	17,300					17,300
357	275	Services	205,975	6,682	6,500	182	208	206,183
358	276	Cons. Meters	68,525	1,953	1,850	103	118	68,643
	277	Cons. Regulators	11,125					11,125

360	278	Install Cons. Prem.						
361	279	Misc. Distr. Eq.	8,532					8,532
		Total Distr.	$677,859	$330,165	$83,350	$246,815	$282,553	$960,412
		General:						
375	350	Gen'l Office Land	(22,379)					(22,379)
376	354	" " Struct.		484	500	−16	−18	−18
377	360	" " Equip.	10,995					10,995
378	351	Other Gen'l Land						
379	355	" " Struct.		2,338		2,338	2,677	2,677
382	362	Gen'l Shops Equip.						
382	362	" Stores "	(4,373)					(4,373)
383	363	" Stable "						
	364	" Garage "	(50,834)	(33)		(33)	(37)	(50,871)
384	365	" Constr. "	(9,415)					(9,415)
384	...	" Commun."						
		Total Gen'l.	$97,996	$2,855	$500	$2,355	$2,696	$100,692
		Grand total	$767,103	$339,682	.....	$250,832	$287,152	$1,054,255

[fol. 464] Historical Cost

Acct. No. CRC	Corp.		Capital, incl. overheads, Jan. 1, 1930	½ of est. A's & B's for 1930—net cap. under constr.	Average capital 1930
301	...	Organization	$365,529	.....	$365,529
302	...	Franchises	12,406	.....	12,406
		Production:			
311	237	Land	1,699,345	.....	1,699,345
312	240	Structures	1,604,861	$1,070	1,605,931
313	241	Boiler Plant Equip.	1,290,740	193	1,290,933
314	242	Gas Generators	2,081,402	.....	2,081,402
	243	Purification App.	1,464,817	312	1,465,129
	244	Main Pipe Lines	2,101,794	6,023	2,107,817
	245	Accessory Equip.	3,523,257	10,885	3,534,142
315	246	Gas Storage Equip.	2,557,828	−27,000	2,530,828
316	247	Misc. Production Equip.	205,180	1,580	206,760
317	248	By-Products Struct.	232,128	88	232,216
	249	By-Products Equip.	1,313,639	.....	1,313,639
		Total Production	$18,074,991	−$6,849	$18,068,142
		Distribution:			
351	267	Land	$1,231,441	.....	$1,231,441
352	270	Structures	572,582	$429,112*	1,001,694
353	271	Distr. Station Equip.	452,876	1,530	454,406
354	272	Distr. Stores Equip.	2,753,300	.....	2,763,300
355	273	Distr. Mains	21,360,310	217,987	21,578,297
356	274	District Regs. & Meters	318,091	17,300	335,391
357	275	Services	7,979,559	206,183	8,185,742
358	276	Cons. Meters	5,319,436	68,643	5,388,079
	277	Cons. Regulators	592,495	11,125	603,620
360	278	Install. Cons. Prem.	15,977	.....	15,977
361	279	Misc. Distr. Equip.	241,775	8,532	250,307
		Total Distribution	$40,837,842	$960,412	$41,798,254
		General:			
375	350	Gen'l Office Land	$388,260	$22,379	$410,639
376	354	Gen'l " Struct.	1,465,860	−18	1,465,842
377	360	Gen'l " Equip.	305,007	10,995	316,002
378	351	Other Gen'l Land	574,324	.....	574,324
379	355	" " Struct.	406,071	2,677	408,748
381	361	Gen'l Shops Equip.	2,970	.....	2,970
382	362	Gen'l Stores "	67,567	4,373	71,940
383	363	Gen'l Stable "	.....	.....	.....
	364	Gen'l Garage "	713,364	50,871	764,235
384	365	Gen'l Constr. "	147,361	9,415	156,776
385	...	Gen'l Commun. "	51,694	.....	51,694
		Total General	$4,122,478	$100,692	$4,223,170
		Grand total	$63,413,246	$1,054,255	$64,467,501

*Includes Total of Pasadena Office Building.

[fol. 465] Depreciation Annuity

6% Sinking Fund Method on Historical Cost Estimated for Year 1930

	Average capital 1930	Est. life, years	Annuity rate	Annuity
Production:				
Structures	$1,605,931	30	.012649	$20,313
Boiler Plant Equip	1,290,933	25	.018227	23,530
Gas Generators	2,081,402	18	.032357	67,348
Purification App	1,465,129	20	.027185	39,830
Main Pipe Lines	2,107,817	20	.027185	57,301
Accessory Equip	3,534,142	20	.027185	96,076
Gas Storage Equip	2,530,828	40	.006462	16,354
Misc. Prod. Equip	206,760	20	.027185	5,621
By-Prod. Struct	232,216	30	.012649	2,937
By-Prod. Equip	1,313,639	20	.027185	35,711
Total Production	$16,368,797	..	.....	$365,021
Distribution:				
Structures	$1,001,694	35	.008974	$8,989
Dist. Sta. Equip	454,406	20	.027185	12,353
Dist. Storage Equip	2,753,300	40	.006462	17,792
Dist. Mains	21,578,297	25	.018227	393,308
Dist. Regs. & Meters	335,391	25	.018227	6,113
Services	8,185,742	18	.032357	264,866
Cons. Meters	5,388,079	25	.018227	98,209
Cons. Regulators	603,620	25	.018227	11,002
Insta. Cons. Prem	15,977	10	.075868	1,212
Misc. Dist. Equip	250,307	10	.075868	18,990
Total Distribution	$40,566,813	..	.....	$832,834
General (71.9%):				
Gen. Office Struct	$1,465,842	45	.004701	$6,891
Gen. Office Equip	316,002	15	.042963	13,576
Other Gen. Struct	408,748	45	.004701	1,922
Gen. Commun. Equip	51,694	15	.042963	2,221
Total General	$2,242,286	..	.....	$24,610
Grand total	$59,177,896	..	.....	$1,222,465

[fol. 466] This exhibit shows the depreciation annuity, computed on a 6 per cent sinking fund method, which would be required upon the basis of historical cost of the Company's property used in the gas department, including one-half the estimated additions and betterments during the year 1930, and including $287,150 amount of capital items under construction, which annuity for the year 1932 would be $1,222,434. In my opinion that would be a reasonable annuity on a 6 per cent sinking fund method based upon the historical cost of the property.

Thereupon the Los Angeles Gas and Electric Corporation offered and there was admitted in evidence its Exhibit No. 50, which is in the following form:

[fol. 467] EXHIBIT 50

Summary of Estimated Revenue, Operating Expenses and Net for Return Gas Department, Year 1930

Historical Cost Basis

Gross Revenue:		
Domestic and Commercial Revenue		$15,459,221.63
Industrial Revenue		625,454.31
Misel. Operating Revenues		102,947.26
Total operating revenues		$16,187,623.20
Expense:		
Production:		
Fuel Oil & Natural Gas	$4,282,687.95	
Operation and Maintenance	387,087.27	
Total Production Expense		$4,669,775.22
Distribution:		
Gross Expense	$1,123,322.25	
Overhead Deduction	20,000.00	
Net total distribution expense		$1,103,322.25
Commercial & New Business		998,554.73
General		1,085,007.58
Subtotal		$7,856,659.78
Taxes		1,632,884.55
Uncollectibles		182,490.70
Carbon Expense		7,499.21
Depreciation		1,222,434.00
Total operating charges		$10,901,968.24
Net for return, Historical Cost Basis		$5,285,654.96

[fol. 468] Summary of Estimated Revenue, Operating Expenses and net for Return Gas Department, Year 1930.

Reproduction Value Basis

Gross Revenue:		
Domestic and Commercial Revenue		$15,459,221.63
Industrial Revenue		625,454.31
Miscl. Operating Revenues		102,947.26
Total Operating Revenues		$16,187,623.20
Expense:		
Production:		
Fuel Oil & Natural Gas	$4,282,687.95	
Operation and Maintenance	387,087.27	
Total Production Expense		$4,669,775.22
Distribution:		
Gross Expense	$1,123,322.25	
Overhead Deduction	20,000.00	
Net Total Distribution Expense		$1,103,322.25
Commercial & New Business		998,554.73
General		1,085,007.58
Subtotal		$7,856,659.78
Taxes		1,632,884.55
Uncollectibles		182,490.70
Carbon Expense		7,499.21
Depreciation		1,300,000.00
Total Operating Charges		$10,979,534.24
Net for return, Reproduction Value Basis		$5,208,088.96

[fol. 469] EXHIBIT 50—II

Los Angeles Gas and Electric Corporation

Estimated Return for Gas Department, Year 1930

	Historical basis	Reproduction cost new less accrued depreciation
Total Physical Property Including materials and supplies and Working Cash Capital	$67,507,633	$77,062,959
One-half A's and B's and work under construction, as of Jan. 1, 1930, less that estimated in progress as of Jan. 1, 1931	1,058,680	1,058,680
Cost of Financing and Promoter's remuneration		8,421,470
Going Concern Value		9,228,667
Total rate base	$68,566,313	$95,771,776
Estimated net for return, year 1930	$5,285,655	$5,208,089
Rate of return	7.71%	5.44%

[fol. 470] In 1928 the variation in revenue between the lowest summer month and the highest winter month showed a relation of from 1 to 2¼ in gas sales. This does not reflect the variations between peak and minimum days, which go even farther to exaggerate the operating problems. In January, 1929, the coldest month, the average gas bill for cooking, water heating and space heating was $5.37, and in August of the same year $2.30. The average annual bill for the year 1929 was $43.12½. In January, 1930, the daily send-out of gas varied from 136,205,000 c. f. to 57,780,000 c. f., or approximately on the ratio of 2½ to 1.

On a temperature corrected basis the sales per meter for 12 months ending periods have been constantly declining since June, 1929. While in past years there has been an upward trend in sales per meter, this has been largely dependent upon the development of the heating load. I am of the opinion that such increase will not continue, as we are approaching closer to the saturation point

of such development. In Dallas, Texas, where natural gas has been available for 20 years, it has been found that for the past 4 years the variation in sales has been directly varying with temperature, indicating that as the saturation point developed in regard to additional uses of gas, the sales per meter tended to remain constant.

There is in Los Angeles a tendency, as in other large cities, for more people to live in apartment buildings rather than in single family dwellings. This tendency has the effect of reducing the quantity of gas consumed per meter, per customer and per capita, and is having, over a period of time, an appreciable downward tendency in gas [fol. 471] sales. A study of the effect of this trend has been made in Chicago, indicating that for the past 4 years the consumption of gas has declined .25 of 1 per cent per year, which is a substantial factor over a period of time. In 6-family apartments and larger the decrease was 3.7 per cent per year. The decrease is attributable to the habits of people living in such dwellings, eating in restaurants and clubs to a greater degree and doing less cooking and other work requiring the use of gas than when living in single family dwellings. There is also an increasing use for electricity for household purposes, including cooking appliances, heaters and other purposes, which cuts in on the use of gas.

A similar study made by the Public Service Electric and Gas Company of New Jersey, covering 257 cities of 25,000 population or more, shows that in 1927, 48 per cent in capacity of the new dwellings were multiple family type structures, whereas in 1921 only 24 per cent were of the multiple family type. That study also showed that taking the average gas consumption of a single family dwelling as 100 per cent, the consumption per family in 2-family houses was 68 per cent; in 3-family buildings, 62 per cent; in 4, 5 and 6-family buildings, 55 per cent, and buildings in excess of 6-family capacity, 46 per cent. As shown by the United States Bureau of Census statistics there has been a substantial increase in the per capita output of bakeries and in the canning of food products of all kinds. While in Los Angeles the saturation point of gas usage has not been [fol. 472] reached, yet we are getting very close to it and I do not believe that previously experienced growth may be expected to continue.

The tendency in connection with apartment house construction is to use the central heating system rather than individual heating units and to use oil for fuel. While lower rates would to some extent stimulate additional business, the price is not a determining factor. Electricity is being sold in increasing quantities upon the basis of advantages as to cleanliness and convenience despite its higher cost, and the problem is primarily one of salesmanship. No reduction that might be made would substantially stimulate the sale of gas inasmuch as the average monthly bill is less than $4. Active competition is being experienced from electricity and oil. There have been, in recent years, substantial improvements in the design of oil furnaces and their use has become very extensive. From the standpoint of cost, natural gas cannot be sold to compete with oil, as is very well indicated by the industrial business, where the cost of oil is so much less that it is impossible in many cases to sell gas in competition. In the larger buildings the advantages of oil are most marked and there is a rather definite tendency to put in oil burners in such buildings, even involving the removal of existing gas installations. Our manufacturing plant has sufficient capacity to supply about one-third of our peak demand. It has capacity to supply our entire requirements from May to October of each year. [fol. 473] In the estimate of operating expenses shown in Exhibit 50, federal income tax has been estimated on the basis of the 11 per cent tax presently effective. I understand that unless further legislation is enacted the tax rate applicable to 1930 income will be 12 per cent instead of the 11 per cent shown in my estimates, and the other estimates of expense that have been made in this case by the Commission's engineers.

(The estimate of federal income taxes in Table V of the Commission's Decision, set forth in Exhibit "A" to the Bill of Complaint herein, was based on the 11 per cent federal income tax rate.)

While there have been some large expenditures for operating expenses during the year 1930 which are not of a recurring nature, I expect that in succeeding years similar large expenditures will be encountered in other parts of the property. Almost every year some major expenditure occurs in the operation of the Company. While one account may be unusually large in one year, it will be balanced by other accounts in following years.

I have made no estimate of sales and revenue for 1931 because I feel there are so many variables that such an estimate could not have been made with any reasonable degree of accuracy. Considering everything, however, I do not believe that if I were compelled to make an estimate that the revenues for 1931 would exceed those shown for the year 1930. There has been a downward trend in sales for over a year.

Cross-examination:

In my estimate of gross revenue for 1930 I have taken the actual gas sales for the first five months of the year, [fol. 474] and for the remaining months I have estimated sales on the basis of normal temperature corrected sales per meter. Were the sales for the first five months likewise adjusted to a normal temperature basis, the estimated gross sales for the entire year would be approximately $227,000 in excess of my estimate in Exhibit No. 50. My estimate of expense for gas purchased for 1930 from the Southern California Gas Company is based upon the actual cost of gas from that company for the first five months of the year at 15½ cents per thousand cubic feet, and for the remainder of the year is estimated at the rate of 17½ cents per thousand cubic feet. No increase can be made in the rate charged by the Southern California Gas Company without formal application being made to the Railroad Commission by that company and approval obtained. No formal application has been made to the Commission. If the cost of purchased gas for the remaining seven months is estimated at the present rate, the difference would be about 11½ per cent less for that period, or a total of approximately $117,000. My estimate of $139,320 for legal expense for 1930 is an allocation of 71.9 per cent of estimated legal expense for both gas and electric departments, in which total is included approximately $100,000 for expense of litigation involving the validity of the Company's electric franchises. I consider the increased cost of gas estimated by me as fair and reasonable in view of the increased investment and expense being incurred by Southern California Gas Company to bring in additional gas supply from a distance.

Since I have been with the Los Angeles Gas and Electric Corporation, in April, 1924, I have testified before the

[fol. 475] Commission in 3 gas rate proceedings. In the first of such proceedings the rate base was computed by merely adding additions and betterments to the figures previously used by the Railroad Commission, although the Company was aware at that time that these were not fair and proper figures to represent the value of its property, but time did not permit the making of a valuation. In the second proceeding the same situation prevailed, although an attempt was made to approximate the value by translations of book figures. It was recognized, however, that this was an inaccurate method and the preparation of the detailed inventory and appraisal which has been used in this proceeding was undertaken shortly thereafter. In the first proceeding no special study was made of overhead items, book figures for additions and betterments being added to the figure used by the Commission in the 1921 rate case. The actual amount expended for such overhead was charged to either operation or capital. In prior rate cases the Company reported its overheads as they appeared upon the books. We have recently made a thorough and careful study of overheads in connection with this proceeding and found that the amounts charged to capital for overheads were inadequate, and we have made a careful analysis of the books to determine what the true overheads were, and have used in this proceeding the true overheads so determined.

Redirect examination:

My testimony in this case represents my present judgment and opinion, irrespective of any inconsistency with any matters testified to by me in prior proceedings. I sometimes have to change my mind upon the basis of additional information and experience. Since submitting [fol. 476] estimates of revenue for 1930 in this case the Company has experienced a further loss of meters and I think my estimates of revenue are too high. I believe the revenue for 1931 would be substantially the same as estimated for 1930.

[fol. 477] Daniel F. McGarry was called as a witness on behalf of Los Angeles Gas and Electric Corporation and, having been duly sworn, testified as follows:

I am a real estate broker and appraiser and have been engaged in that occupation for over 20 years in and around Los Angeles; I have appraised property in all sections of Los Angeles and over much of Los Angeles County; I have served as referee by court appointment in many instances in the opening and widening of streets and as such appraiser have done work for both the City of Los Angeles and the County of Los Angeles; I have appraised property for the Pacific Electric Railway, the Southern Pacific, the Union Pacific, the Wells Fargo Bank of San Francisco, United States Mortgage & Trust Company of New York, the Los Angeles Power and Light Department, the Federal and State Governments, and for estate and private owners, covering all classes of property, from that at Seventh and Broadway in Los Angeles valued at $25,000 a front foot to the wash of the San Gabriel River at $25 an acre; I was on the Board of Directors of the Los Angeles Realty Board for 4 years and was president in 1918; I was chairman of the appraisal committee of the Los Angeles Realty Board for 2 years and helped organize that committee.

I have appraised the real properties of Los Angeles Gas and Electric Corporation as of January 1, 1930; the aggregate market value of all the real estate owned as of January 1, 1930 is $4,286,447, which value was arrived at by taking into consideration the location, use, history, prospects and environs of the various parcels and upon consideration of sales, listings and discussions with property owners and agents; I had previously appraised the most of these prop- [fol. 478] erties in 1925 and again in 1928; Mr. McAuliffe, of the valuation department of the Railroad Commission, has checked over these figures and all the information in the possession of either of us was available to the other. In the aggregate there will not be much of a change in values within the next few years; some districts may vary, but as a whole there is no definite trend and the values as of January 1, 1930 are fairly representative of the values for the next 2 or 3 years. The only changes from the valuations made in 1928 are in respect of 3 parcels and the net result is an increase of but $6,230 from the prior figures.

The appraisals of the various parcels of real estate as made by Mr. McGarry (Exhibit 26), the apportionment thereof to the gas department as made by Mr. Masser (Exhibit 27) and the appraisals and apportionments made by Mr. McAuliffe (Exhibit 46), are as follows:

[fol. 479]

Item	Location	McGarry Total value		McGarry Gas Dept.	McAuliffe Total value	McAuliffe Gas Dept.
	Production:					
10	Aliso St. Gas Works	$781,115	100%	$781,115	$765,824	$765,824
11	Ducommon St. Station	444,287	100%	444,287	445,149	445,149
12	Ducommon St. Station	74,328	100%	74,328	66,134	66,134
14	Macy St. Plant	263,900	100%	263,900	253,415	253,415
15	Oil Yard	135,715	100%	135,715	126,813	126,813
	Subtotal	1,699,345		1,699,345	1,657,335	1,657,335
	Distribution:					
3	Alhambra Office	25,050	100%	25,050	25,050	25,050
13	Gas Meter Repair Shop	53,610	100%	53,610	46,911	46,911
18	Hewitt St. Yard	36,750	100%	36,750	31,500	31,500
19	7th St. Station Yard	411,187	86.5%	355,677	355,638	355,638
20	36th St. Station	144,206	95.0%	136,996	96,137	91,330
21	Hollywood Station	225,561	94.0%	212,027	220,477	207,248
22	Pasadena Station	199,759	100.0%	199,759	150,201	150,201
27	Centinella Metering Station	3,100	100.0%	3,100	3,000	3,000
	Mis. Right of Way	3,863 (a)	100.0%	3,863	3,863	3,863
2	Pasadena Office	35,625	100.0%	35,625	35,625	(1) 35,625
4	Inglewood Office	63,750	100.0%	63,750	60,000	(2) 60,000
5	Huntington Park Office	57,150	100.0%	57,150	48,578	(3) 48,578
23	Belvedere Holder Site	48,084	100.0%	48,084	48,100	(4) 48,100
		1,307,695		1,231,441	1,125,080	1,107,044

	General:						
1	Flower St. Office	540,000		71.9%	388,260	540,000	388,260
10	Engineering Dept. Aliso St	86,705		71.9%	62,341	100,963	72,592
13	6th St. Garage	120,532		71.9%	86,663	109,575	78,784
16	48th St. Yard	536,033		71.9%	385,408	485,726	349,237
19	7th St. Garage	55,510	(b)	71.9%	39,912	55,548	39,939
	Subtotal	1,283,270			962,584	1,291,812	928,812
	Grand total	$4,290,310			$3,893,370	$4,074,227	$3,693,191

(a) Book value.
(b) Included in Item 19, Distribution.
(1) Non-operative as of December 31, 1929. In operation February 28, 1930.
(2) Non-operative as of December 31, 1929. Building construction expected to start about August 1, 1930.
(3) Non-operative as of December 31, 1929. Building construction started April 8, 1930.
(4) Non-operative as of December 31, 1929. No definite construction program.

[fol. 480] Cross-examination:

There is at present a depressed real estate market and by reason of abnormal conditions sales under present conditions are virtually by force of necessity. The appraisal which I have made does not reflect that depressed factor as being of other than passing importance. On the whole the figures that I have given represent in my opinion stable and more or less permanent values.

[fol. 481] Adolph J. Luick was called as a witness on behalf of Los Angeles Gas and Electric Corporation and, having been duly sworn, testified as follows:

I reside in Chicago, Illinois and am a consulting engineer, specializing in matters relating to public utility properties; I graduated from the mechanical engineering course of the University of Wisconsin in June, 1907; immediately thereafter I entered the employ of the Laclede Gas Light Company, St. Louis, Missouri, as cadet engineer, and was successively in charge of the boiler and engine rooms, coal gas operation, water gas operation and also assistant in such construction and repair work as was done at the plant;

From February to May, 1909, I assisted in the valuation of the water, gas and electric department of Beloit Water, Gas and Electric Company of Beloit, Wisconsin, and then entered the employ of the Peoples Gas Light and Coke Company at Chicago, supervising the making of an inventory and appraisal of the properties of that company in Chicago;

In March, 1911, I entered the employ of William A. Baehr, consulting engineer, of Chicago, in charge of valuation and rate work; I have made appraisals of properties of Peoples Gas Light and Coke Company at Chicago, Kings County Lighting Company of Brooklyn, New York, the Oshkosh Gas Light Company, Oshkosh, Wisconsin, (both gas and electric departments), Minneapolis Gas Company, the Omaha Gas Company, the Georgia Railway and Power Company, and the Georgia Railway and Electric Company (including electric, gas, heat and street railway depart-[fol. 482] ments). While with Mr. Baehr I also had a great deal of experience in other consulting engineer's work, including making of bankers' reports for the purpose of issuing securities, reports for the purchase and sale of properties, the design and construction of utility plants and ex-

tensions thereof, and the purchase of materials and equipment for plants of such character.

I have assisted in the operation of such utility companies as were owned and operated by North American Light and Power Company and its subsidiaries, the Illinois Power and Light Corporation, the Illinois Traction, Incorporated, Missouri Power and Light Company, Des Moines Electric Light Company, Iowa Power and Light Company, Kansas Power and Light Company and Kansas Public Service Company. These companies supply electric service to a population in excess of one million and gas service to a population in excess of one-half million, as well as railway, electric interurban, steam heat, water and ice service in some of the 450 communities served; I was in personal charge of the appraisal and rate proceedings of North American Light and Power Company from 1916 to 1926.

I have also represented other companies in valuation and rate proceedings, among them being the Winnipeg Electric Railway Company of Winnipeg, Canada; Billings Gas Company, Billings, Montana; Iowa Railway and Light Company of Marshalltown, Iowa; the Canton Gas and Electric Company of Canton, Illinois; the city of Iowa City, Iowa; Delphos Gas Company, Delphos, Ohio; Fort Smith Light and Traction Company, Fort Smith, Arkansas; Southwestern General Gas Company, Fort Smith, Arkansas; Wisconsin-Minnesota Light and Power Company at [fol. 483] La Crosse, Eau Claire and Chippewa Falls, Wisconsin, and Winona and Red Wing, Minnesota. I represented the United Public Service Company in its rate proceedings during the period commencing about 3 years ago and ending about 1 year ago.

I have also represented a number of companies in federal court proceedings concerning valuations and rates, particularly the Monroe Gas Light and Fuel Company of Monroe, Michigan, and the Georgia Railway and Electric Company, of Atlanta, Georgia, as well as the Wisconsin-Minnesota Light and Power Company of Winona, Minnesota, and the Washington Gas and Electric Company of Washington Court House, Ohio.

Since November, 1926, I have been associated with Mr. T. J. Lucas in the practice of consulting engineering, with special regard to work in connection with public utilities. For the period of 15 months and up to the recent sale of the properties I acted as consulting, valuation and rate en-

gineer for the United Public Service Company, for which company our firm also held a management contract, Mr. Lucas acting as vice-president in charge of operation of that company for a period. This company served a total of utility properties aggregating about $35,000,000.

I have assisted in the acquisition of properties owned by the Southwest Utilities Corporation of a total value of around two and a half million dollars and acted as vice-president in charge of operation of those properties for about six months until they were disposed of. I also became familiar with the acquisition of properties through [fol. 484] my connection with the North American Light and Power Company, for which company I passed on all such purchases made.

In the matter of public employment I have made appraisals for the city of Iowa City, Iowa; designed a street lighting system for the city of Middeltown, Ohio, and have reported on gas service conditions for the city of Winnetka, Illinois. In the year- 1928 and 1929 I acted as consulting engineer for the city of Memphis, Tennessee, in connection with the negotiation of a franchise ordinance covering natural gas service to Memphis, and in an advisory capacity in checking the plans and specifications for the necessary pipe lines and compressor stations. In the fore part of 1930 I was engaged as special rate engineer by the Board of Public Utility Commissioners of the State of New Jersey, in the matter of an application by the Public Service Electric and Gas Company for permission to revise the form of its gas rate schedule. I have had actual experience in the valuation of public utilities and in the making of rates therefor and in the operation, design and construction of public utility properties.

I have supervised and directed the making of an inventory of the gas properties of Los Angeles Gas and Electric Corporation as of January 1, 1930, comprising an exhibit of 17 volumes, showing the actual physical properties of the Company and detailed unit costs, subdivided in accordance with the Railroad Commission's Classification of Accounts. Preparation of such inventory and appraisement [fol. 485] was in charge of a competent engineer as to each account, assisted by other engineers, computers, field men and clerks. The inventory was made by investigation in the field, search of drafting department files for plans of structures, equipment and equipment foundations, search of job

records and property ledgers for dates of construction, for leads as to hidden items, for descriptions and for quantities charged to the various jobs. The plans were checked in the field by actual measurement, and where any discrepancy occurred the field measurements were substituted. If necessary, excavations were made alongside of foundations of buildings, verifying the accuracy of the plans and structures not opened to ordinary inspection. The inventory was set up in the standard units for estimation of prices. In some cases foundations or floors were bored in order to determine exact conditions. In the inventory of gas mains we had recourse partially to the foremen's job records and partially to the Company's atlas sheets, which have been maintained since 1899, showing the length and kind of pipe main, by various sizes, and of the fittings and other necessary material therein. We checked up the time when the pipe was laid. A field inventory of all services was made and also a spot check of the meter inventory from the Company's record. The general office building was but recently completed and no detailed inventory was made thereof, but the actual cost, exclusive of overhead, was taken. Engineering and construction department buildings were inventoried and appraised in detail.

The description of the method given in preparing the [fol. 486] inventory applies equally to the historical reproduction cost and the cost of reproduction new, with the exception that in the case of the historical cost the quantities for excavation were in many instances greater than in the cost of reproduction new. In the historical development of the property openings were made for the installation of foundations and necessarily these were wider than the net opening required or later to be filled by the concrete or foundation material. In the case of cost of reproduction new, however, many of these items would be constructed concurrently and therefore the overlap of excavation in the historical cost inventory was not applied to the reproduction cost estimates.

The preparation of the inventory and appraisement occupied a total of 23,774 men days, or the equivalent of one man's work for practically 80 years.

The inventory is complete so far as it is possible to make such an inventory complete, but it has been my experience that regardless of the care exercised there are always some hidden items which cannot be uncovered and do not appear

in the inventory. Every item shown, however, is in existence and is used and useful in the gas department service.

Thereupon the Los Angeles Gas and Electric Corporation offered and there was admitted in evidence its Exhibit No. 29, which is in the following form:

[fol. 487] EXHIBIT 29

Historical Appraisal of Physical Gas Properties, January 1, 1930

Acct. C.R.C.	No. Corp.		
		Preliminary Capital:	
301	...	Organization	$365,529
302	...	Franchises	12,406
		Total Preliminary Capital	$377,935
		Production:	
311	237	Land	$1,699,345
312	240	Structures	1,604,861
313	241	Boiler Plant Equipment	1,290,740
314	242	Gas Generators	2,081,402
	243	Purification Apparatus	1,464,817
	244	Main Pipe Lines	2,101,794
	245	Accessory Equipment	3,523,257
315	246	Gas Storage Equipment	2,557,828
316	247	Misc. Production Equipment	205,180
317	248	By-Products Structures	232,128
	249	" " Equipment	1,313,639
		Total Production	$18,074,991
		Distribution:	
351	267	Land	$1,231,441
352	270	Structures	572,582
353	271	Distr. Station Equipment	452,876
354	272	Distr. Storage Equipment	2,753,300
355	273	Distr. Mains	21,360,310
356	274	Dist. Regulators & Meters	318,09[illegible]
357	275	Services	7,979,559
358	276	Consumers Meters	5,319,436
	277	Consumers Regulators	592,495
360	278	Install Cons. Prem.	15,977
361	279	Misc. Distr. Equipment	241,775
		Total Distribution	$40,837,842
		General (71.9%):	
375	350	General Office Land	$388,260
376	354	" " Structures	1,465,860
377	360	" " Equipment	305,007
378	351	Other General Land	574,324
379	355	" " Structures	406,071
381	361	General Shops Equipment	2,970
382	362	" Stores "	67,567
383	364	" Garage "	713,364
384	365	" Constr. "	147,361
385	...	" Commun. "	51,694
		Total General	$4,122,478
		Total physical property	$63,413,246

[fol. 488] Historical Appraisal of Physical Gas Properties
January 1, 1930

Preliminary Capital	$377,935
Production	18,074,991
Distribution	40,837,842
General	4,122,478
Total Physical Property	$63,413,246
Cash Working Capital	2,333,850
*Materials and Supplies	612,735
Cost of Brokerage and issuance expenses on bonds outstanding against the Gas Department as of January 1, 1930	1,147,802
	$67,507,633

[fol. 489] Materials & Supplies

Average Gas Materials and Supplies 1927 to 1929 inclusive	$422,144
Average Gas and Electric M. & S. 1927 to 1929 incl. $304,919 at 42.82%	130,566
Gas Oil Average 1928 and 1929	50,082
Carbon Average 1929	3,300
Average Garage Supplies 1927 to 1929 Incl. at 63.5%	6,643
Total Materials and Supplies	$612,735

Overheads to be Applied to Historical Appraisal of Gas Properties as of January 1, 1930

Engineering and Superintendence	5.73%
Law expenses, injuries and damages, Insurance, taxes, general, administration and misc'l.	4.00
Omissions and contingencies	2.00
Total, exclusive of interest	11.73

* Interest which should have been added on Construction Materials and Supplies as part of the Historical Cost of the Gas property in the event that Construction Materials and Supplies are excluded as a capital item, $630,381.

Interest at 7.12%—		
On direct costs	2.46%	
On other overheads	.29	
Total interest		2.75
Total overheads		14.48%

[fol. 490] Exhibit 29 shows the historical appraisal of cost of reproduction of the physical properties of the gas department of the Company. By historical reproduction cost I mean the estimated market value of the land as of the date of the valuation, plus the estimated cost of the other property of the public utility at the time of the original construction thereof. As shown in detail in the exhibit, it is my judgment that the total historical reproduction cost of tthe property of the gas department of the Company is $67,507,633, without giving effect to the going value of the Company and its business.

The item of organization expense is taken from the Company's books and is a proration to the Gas Company on the basis of 71.9 per cent. The item for land is that shown in the testimony of Mr. McGarry and the apportionment to the gas department as made by Mr. Masser. This applies to all land values shown.

In connection with the historical cost of production capital, I would like to point out that this item is considerably in excess of the cost estimated for reproduction new for the reason that the historical cost estimate is predicated upon the construction during 1921 and other periods of a considerable portion of the generating plants on a force basis because of the difficulties encountered by the Company in its gas supply, requiring that much of the work be undertaken while the generators and boilers and the rest of the plant were in operation. This necessarily increased the labor cost as against the costs that would be incurred on a reproduction basis with no interference by the operating organization.

[fol. 491] To the extent the information was available from the books of the Company the unit costs used in Exhibit 29 are those shown on the books and show the prices for materials for the years in which materials were purchased, the amount of labor required and the wages paid

at the time of such installation. To the extent such information was not available on the books estimates have been made, but in many cases such estimates are verified by exact information available as to times close to the period estimated, and in my opinion and judgment all of the prices are reasonable and none of them in excess of the prices actually paid. The allocation of certain general accounts as between the gas and electric departments is on the basis of the average between meters in use and operating expenses, and in my opinion is fair and reasonable.

The Company's records show that prior to January 1, 1913, it bought pure wrought iron pipe for its mains, the most of the purchase orders specifying "Pure wrought iron pipe (not steel)." I have so classified all mains installed prior to that date. I have not inspected the pipe in the ground to determine whether it is wrought iron or wrought steel. The only knowledge we have that it is wrought iron would be from the purchase records.

The total for indirect construction costs (overheads) on the historical cost of reproduction is 14.48 per cent, as shown in Exhibit 29. The interest item included therein is based upon a study made by Mr. Houghton, the treasurer of the Company, showing the actual out-of-pocket cost of money used by the Company, which is 7.12 per cent. We had recourse to the records of the Company showing what [fol. 492] overheads had actually been charged, but we discovered that the practice as to such charges had not been uniform and it was apparent that some of the overhead charges actually incurred and which should have been charged to capital account had been included in operating expenses. We therefore analyzed the Company's experience over a period of years and re-allocated the costs of general and administrative, engineering and superintendence costs.

We found, for instance, that none of the salaries or expenses of the legal department had been charged to capital, although a considerable portion of the time of that department is devoted to matters in connection with specifications, contracts and claims relating to capital items. Certain executive officers' salaries and expenses have not been charged to capital, the entire amount having been included in operating expense. In other cases the amounts allocated

to capital were found to be insufficient. No allocation had been made for general office supplies or other general office expenses, nor had a sufficient amount been allocated to capital for insurance, injuries and damages or relief and welfare work.

We therefore re-allocated general expense as between operating expense and construction overheads, both on the basis of payroll and on the basis of total expenditures. On the payroll basis segregation was made, excluding general labor, for the period 1922 to 1928 and it was found that 56.83 per cent of the total direct wages and labor and salaries paid was chargeable to operating expenses and 43.17 per cent to capital. During this period the general office building and the Seal Beach plant were constructed [fol. 493] under contract and the architectural and engineering fees on these projects, handled by outside architects or contractors, were deducted from the contract cost of the jobs in order to figure the cost without overheads, and the amount of such deduction added to the other overhead items arrived at from analysis of the Company's payroll. For the years 1922 to 1928 the overhead cost so derived would have amounted to 3.73 per cent of the amount of gross additions to depreciable capital. Upon the basis of gross expenditures for the years 1917 to 1928, inclusive, general expense averaged 4.36 of the capital items. The average of the two bases is 4.045 per cent, but we have leaned more to the payroll basis and have used 3.75 per cent as the proper overhead allowance for administrative and general expense.

In respect of engineering expense, it was also found that many items chargeable to capital had been omitted or understated. The records and accounts were analyzed and the net amount of such additions which should be made to the engineering accounts was computed, it being finally determined that 5.73 per cent of direct capital charges should be added for engineering and superintendence.

Data on taxes was not available in such a shape as to lead to a satisfactory figure. It was found, however, that the city and county taxes actually paid on the general office building and the Seal Beach plant, both of which were constructed as complete units, amounted to .7 per cent of the average cost. This was arbitrarily reduced to one-quarter of one per cent.

For a long time no interest during construction was [fol. 494] charged to capital, but during the last 4 or 5 years an attempt has been made to allocate this charge and the information was therefore available on certain jobs on which a conclusion could be reached as to the proper amount for such item. A large number of jobs, aggregating over $8,500,000, in various departments were analyzed. We determined the financing and construction period, to which was applied the 7.12 per cent out-of-pocket money cost developed by Mr. Houghton. By averaging on a weighted basis the total of the expenditures, a weighted average of 2.46 for interest during construction was determined, and interest on the overhead items will give a final figure of 2.75 per cent. An allowance of 2 per cent has also been made in the historical appraisal to cover omissions and contingencies. No interest has been included on materials and supplies prior to their use in new construction.

Thereupon the Los Angeles Gas and Electric Corporation offered and there was admitted in evidence its Exhibit No. 30, which is in the following form:

[fol. 495]

EXHIBIT 30

Working Capital as of December 31, 1929

	Combined	Proportion to gas dpt.	Gas department: Avg. for 12 most. ending Dec. 31, '29	Gas department: Total
Cash	$625,279.47	66.85%	.....	$417,999.33
Accounts Receivable	.....	.....	.....	1,892,504.07
Rental of Street Lighting System	7,609.83	.....	.....	
Gas Sales (43 days)	.....	.....	1,848,898.28	
Industrial Gas Installations	270.91	100.	270.91	
Sundry Debtors	56,773.94	71.9	40,820.46	
Meter Rentals	1,612.04	100.	1,612.04	
Misc. Accounts Receivable	1,255.05	71.9	902.38	
Gas in Holders	.....	.....	.....	8,373.61
Special Deposits	.....	.....	.....	4,804.34
Street Excavating permits for Cities other than Los Angeles	4,706.76	100.	4,706.76	
Storing Building Materials on Streets	100.41	Actual	33.33	
Use of Fire Hydrants	84.71	66.44	56.28	
Vault Keys	2.00	66.44	1.33	
Board of Public Utilities	10.00	66.44	6.64	
Street Lighting Bid	1,528.73	.....	.....	
Bond Redemption	1,940.00	.....	.....	
Sinking Fund Payments	2,916.67	.....	.....	
Misc. Current Assets	.....	.....	.....	2,035.56
Collectors' Change	3,063.75	66.44	2,035.56	
Interest on Bonds in Sinking Fund	15,484.38	.....	.....	
Misc. Deferred Debits	.....	.....	.....	1,062.12
Consumers, Ledgers, etc., for 1929	263.49	66.44	175.06	
Taxes on Seal Beach Plant—paid under protest	19,000.00	.....	.....	
Depreciation charged on automotive equipment junked	1,654.58	.....	.....	
Claims against Contractors	1,229.57	71.9	884.06	
Amount to be refunded by Peabody Engineering Co	5.33	.....	.....	
Miscellaneous	4.17	71.9	3.00	
Payments	.....	.....	.....	5,698.23
Rents	242.39	Actual	79.56	
Insurance	8,916.12	Actual	5,618.67	
Jobbing Account	4,165.25	Actual	1,373.09	1,373.09
Total	.....	.....	.....	$2,333,850.35

[fol. 496] This exhibit shows the working capital of the Company as of December 31, 1929. By working capital I mean the amount of cash and supplies which the Company has invested in service to its consumers over and above its fixed capital and which is necessary for the proper conduct of its business.

The first item shown is cash. This is the average of the cash on hand on the first of each month of 1929 and apportioned to the gas department on the basis of relative operating revenues of the gas and electric departments for 12 months ended December 1, 1929.

The item of accounts receivable represents principally the amounts due from consumers for gas served and not collected for. On the average bills are paid about 28 days after the meter is read, and in addition there is an average of 15 days' supply of gas outstanding, so that all told there is at all times due to the Company from consumers the equivalent of 43 days' supply of gas. To arrive at this amount I have taken 43/365ths of the gas revenue for 1929.

The item of gas in holders represents the value of gas in holders on the average as of the first day of each month of 1929 taken at the average cost per thousand cubic feet of gas for that year.

Together with the smaller self-explanatory items shown, the aggregate is $2,333,850.35, which, in my opinion, is the actual and reasonable working capital of the Company during the year 1929 exclusive of materials and supplies. In my opinion at least that amount will be required in 1930 and subsequent years because as the Company's business [fol. 497] grows the amount of working capital required increases.

I have made no deduction for accounts payable because I consider that purely a matter between the Company and its creditors, not in any way influencing the amount of cash and supplies which the Company has invested in service to its consumers over and above its fixed capital and necessary for the proper conduct of its business. If accounts payable were deducted we would have the anomalous situation that a company with good credit would be entitled to a less working capital than one whose credit was poor and therefore had to pay cash. This would be penalizing the efficiently operated company. If money were borrowed to meet accounts payable, it would immediately

reduce the capital of the Company, whereas if stock were sold and all such accounts eliminated, there would be no deduction from working capital. The item shown, for 43 days' supply of gas between delivery and collection is computed at the retail price and represents a deferment of the return to which the Company is entitled and is therefore current investment in the service of the public. My theory is that what the Company purchases is its own affair. I am trying to measure what the Company has invested and what it is entitled to receive from the consumer. The practical necessity of waiting 43 days, on the average, for payment for service rendered entitles it to compensation for the delay or deferment of the return which theoretically is due the Company day by day. Whether or not the Company would need a total of $2,300,000 in cash to carry on its business is entirely a different question and is foreign to the proper allowance for working capital.

The next item, for materials and supplies, amounting to $612,735, is the average of materials and supplies on hand during the three-year term 1927, 1928 and 1929. This [fol. 498] includes materials and supplies for both construction and operation, and in my opinion is required in the operation of this Company. In the event any part of the materials and supplies were eliminated because held for construction purposes and chargeable with interest during construction, there should be added to the capital account shown in Exhibit 29, $630,381 for interest on such materials and supplies held for construction. This amount is not included in the historical reproduction valuation, nor in the overheads entering therein.

The item of $1,147,802 for cost of brokerage and issuance expenses on bonds is determined from analysis of the Company's financial records and shows the actual amount so expended for underwriter's fees and other charges incurred by the Company in connection with the issuance of bonds. It is 60% of the total brokerage expense for both gas and electric departments. The 60% apportionment is the present basis which the Company uses for apportioning fixed capital between the two departments.

Upon the assumption that construction materials are kept in the materials and supplies account, in my opinion $67,507,633 is the historical reproduction value of the properties of the gas department of the Company as of January 1,

1930, excluding going value. If materials and supplies are not to be so handled, there should be an addition for interest during construction on materials and supplies so held.

I have not included in the valuation given any allowance for going value, which is that element of value which inheres in a plant which has an established business as distinguished from one yet to create a business, or the difference in value between a plant which has attached to it a business and which is enjoying a revenue, and the bare bones of the same plant without any business attached and [fol. 499] without revenue, taking into account also the fact that there is a well developed system and an efficient operating organization, as well as business attached to the plant, producing revenue.

I have also prepared an inventory and appraisal of the physical property of the Company upon the basis of the cost of reproduction new as of January 1, 1930. By "Cost of Reproduction New" I mean the amount of money that would be required as of January 1, 1930, to construct and replace this plant, as shown by the inventory, upon the basis of prices of material and labor then prevailing. The inventory is the same as in the historical cost appraisal except that as previously pointed out, some of the quantities of excavation are less than in the historical appraisal. The testimony already given respecting the manner of preparation of the historical appraisal also applies to the cost of reproduction new appraisal. Nothing has been included for paving over mains except to the extent the same was actually in existence at the time the plant was built.

Thereupon the Los Angeles Gas and Electric Corporation offered and there was admitted in evidence its Exhibit No. 32, which is in the following form:

[fol. 500]

EXHIBIT 32

Reproduction Cost New as of January 1, 1939

Acct. No. C.R.C.	Acct. No. Corp.		
301	...	Organization	$819,375
302	...	Franchises	12,406
			$831,781
		Production:	
311	237	Land	$2,111,776
312	240	Structures	1,710,669
313	241	Boiler Plant Equip	1,593,317
	242	Gas Generators	2,304,962
	243	Purification App	1,837,931
314	244	Main Pipe Lines	2,315,344
	245	Accessory Equip	4,117,987
315	246	Gas Storage Equip	2,959,601
316	247	Misc. Prod. Equip	238,146
317	248	By-Products Struct	240,215
	249	By-Products Equip	1,389,454
		Total Production	$20,819,402
		Distribution:	
351	267	Land	$1,530,312
352	270	Structures	649,370
353	271	Distr. Station Equip	498,912
354	272	Distr. Storage Equip	3,282,004
355	273	Distr. Mains	27,217,755
356	274	District Regs. & Meters	342,686
357	276	Services	10,752,021
358	276	Cons. Meters	6,209,334
	277	Cons. Regulators	649,948
360	278	Install. Cons. Premises	17,114
361	279	Misc. Distr. Equip	263,476
		Total Distribution	$51,412,932
		General:	
375	350	Gen'l. Office Land	$482,491
376	354	" " Struct	1,482,712
377	360	" " Equip	317,471
378	351	Other Gen'l. Land	713,712
379	355	" " Struct	437,309
381	361	Gen'l. Shops Equip	3,974
382	362	" Stores "	73,399
383	363	" Stable "	
	364	" Garage "	796,136
384	365	" Constr. "	159,266
385	...	" Commun. Equip.	56,115
386	...	" Laboratory Equip	.....
387	367	Misc. Gen'l. Equip	.....
		Total General	$4,522,585
		Grand total	$77,586,700

[fol. 501] Reproduction Cost New Less Depreciation January 1, 1930

Organization & Franchises	$831,781
Gas Production Capital	20,819,402
Gas Distribution Capital	51,412,932
General	4,522,585
Total Physical Property Including Overhead Charges	77,586,700
Less Accrued Depreciation	3,470,326
Total Physical Property Including Overheads, after Depreciation	74,116,374
Cash Working Capital	2,333,850
Materials & Supplies	612,735
Cost of Financing	5,921,470
Promoters' Remuneration	2,500,000
Total Not Including Going Value	$85,484,429

Gas Department

Overheads Applying to Reproduction Cost New January 1, 1930

Engineering & Superintendence		6.00%
General Administrative, injuries & damages, legal		5.75
Errors, Omissions, & Contingencies		2.00
Subtotal		13.75
Taxes	1.35%	
Interest during construction	7.90	
	9.25 x 113.75	10.52
Total Overheads		24.27%

[fol. 502] Exhibit 32 shows the reproduction cost new of the physical property of the Company used and useful in the conduct of its business as of January 1, 1930, and also additional elements of working capital, materials and supplies, cost of financing and promoter's remuneration; it does not

include any allowance for going value. We did not attempt to use spot prices as of January 1, 1930, but tried to eliminate any wide variations and prices due to peculiar conditions then existing, and which we did not think were going to continue for any length of time. In the case of cement, for instance, the quotations made by the manufacturers were 53 cents per sack. We used a figure of 76 cents per sack, based upon information obtained from the cement companies and their assurance that the price of 53 cents was only temporary.

The reproduction estimate differs materially from the historical cost estimate in that in making the historical cost estimate we necessarily assume the purchase of materials year by year in the quantities in which they were actually purchased. On the basis of reconstruction I have assumed larger quantities of material would be purchased than were actually purchased at one time in the experience of the Company; consequently, much more favorable discounts and better prices could be obtained than were obtained historically, and such discounts have been considered in the construction of unit costs.

Estimates and quotations have been received from the various contractors and dealers of the kind of property going to make up the gas department of the Company. The reproduction estimate of the general office building, completed a few years ago, is about 7 per cent less than the original cost.

The indirect construction costs (overheads) applied in [fol. 503] arriving at the reproduction cost are based upon my judgment and experience as to what would be reasonable items for such cost considering the extent and nature of the work to be done. The group of items of 6 per cent for engineering and superintendence, 5.75 per cent for general and administration expenses, legal expenses, injuries and damages, and 2 per cent for omissions and contingencies, aggregating 13.75 per cent, is, in my judgment, a reasonable amount for such indirect construction costs. The amount allowed for interest during construction is compiled upon the experience of the Company as to the actual cost of money applied to a construction program, which I laid out as the most efficient program for the construction of the property. The interest, so derived, is 7.95 per cent based

on an assumed cost of money of 8.07 per cent, which I consider a conservative figure.

The aggregate of all overhead items on a reproduction new basis is 24.27 per cent. In my opinion this amount is just and reasonable and would necessarily be incurred in the reconstruction of the property.

In making the reproduction cost estimate we have considered not only the price as of a given date, but attempted to obtain prices that would be reasonably stable and might prevail over the next 3 years, so that the cost of reproduction new represents not only the cost of reproduction as of January 1, 1930, but would prevail over a large part of the construction period which I have assumed. The prices used are very close to the average of those which prevailed for a 3-year period prior to January 1, 1930. In my opinion, [fol. 504] while there is a temporary slump in prices, I do not think it probable that there will be any substantial change within the next 2 or 3 years.

Thereupon the Los Angeles Gas and Electric Corporation offered and there was admitted in evidence its Exhibit No. 34, which is in the following form:

FOLDOUT(S) IS/ARE TOO LARGE TO BE FILMED

[fol. 506] Exhibit No. 34 indicates the deduction which, in my judgment, should be made from the cost of reproduction new on account of accrued depreciation. Accrued depreciation consists of actual wear and tear, physical decay, deferred maintenance and any inadequacy and obsolescence that may exist. I have determined it from the actual inspection of the visible physical property and have carefully studied the conditions of the mains and service and other non-visible property. Inspections have been made of all the property by competent men and estimates made of the cost of restoration to perfect condition. After receiving such estimates and reports I have made personal inspection of some of the property to make certain that the estimates used were reasonable.

Thereupon the Los Angeles Gas and Electric Corporation offered and there was admitted in evidence its Exhibit No. 35, which is in the following form:

[fol. 507] EXHIBIT 35

June 3, 1930.

Mr. A. J. Luick, Room 910, Flower St. Building, Los Angeles Gas & Electric Corp., Los Angeles, Calif.

DEAR SIR: In accordance with your instructions, I have prepared a statement of the cost to restore Steel Gas Mains. This statement is based on an analysis of 5,574 underground Inspection Reports, which were taken at random over the entire distribution system of this company during the past three or four years. The following table shows a classification of these Inspection Reports:

Table 1

Classification of Underground Inspections

Classes A, B, C, & D	4,817	Inspections or	86.4190	per cent
Class E	499	" "	8.9523	" "
" F	130	" "	2.3323	" "
" G	91	" "	1.6326	" "
" H	37	" "	0.6638	" "
Total	5,574		100.0000	" "

For your information the following table gives a brief description of the gas mains typical of classes A, B, C, D, etc.

Table 2

Description of Inspection Specimens

Class	Description
A.	No trace of rust, pitting, or rust scale.
B.	Rust spots, but no pitting or rust scale.
C.	Light coating of rust, but no pitting or rust scale.
D.	Uniform heavy coating of rust, but no pitting or rust scale.
E.	Slight pitting or rust scale formation, or both.
F.	Pits half-way through wall of pipe, or equivalent in rust scale.
G.	Pits or scale practically through wall of pipe, but no leakage through perforations.
H.	Perforations in wall of pipe causing leakage.

If the 5,754 inspections in Table 1 are taken to indicate a reasonable average of what might be expected over our entire underground pipe system; and, as you have suggested, this seems entirely justified inasmuch as these inspections were taken at random as the opportunities presented themselves in the natural course of our gas main construction work, then the following tables showing the Cost to Restore may be set up:

[fol. 508]

Table 3

Length of Pipe by Classes

Total Steel Main, 12,472,794 Feet

Class	Total pipe	Per cent	Length
A, B, C, & D	12,472,794	86.4190%	10,778,864 Ft.
E	12,472,794	8.9523	1,116,602
F	12,472,794	2.3323	290,903
G	12,472,794	1.6326	203,631
H	12,472,794	0.6638	82,794
Total		100.0000%	12,472,794 Ft.

12,472,794 feet of steel pipe is the amount taken from the Corporation's books as of January 1, 1930. A complete statement of all mains in the ground as of above date is as follows:

Steel 2,362 miles and 1,434 feet	12,472,794 feet
C. I. 535 miles and 3,522 feet	2,828,322 feet

In order to set up the Cost to Restore one foot of steel pipe in each of the inspection classes it was first necessary to find the current cost to lay one foot of pipe of 5.0390 in. diameter which is the theoretical average diameter of all steel pipe in the distribution system. The cost to lay pipes of 4 in. and 6 in. diameter as furnished by the Valuation Department was graphically expressed, and by interpolation the theoretical cost to lay one foot of 5.039 in. was obtained. (See Graph No. 1.)

The average diameter of all steel mains in the distribution system was obtained in the following manner:

2"	1,063,053 x Pi	D Equals	6,679,375
3"	1,282,418 x "	"	12,086,533
4"	6,315,912 x "	"	79,368,277
6"	2,279,038 x "	"	42,958,955
8"	472,133 x "	"	11,866,024
10"	267,995 x "	"	8,416,503
12"	341,321 x "	"	12,867,529
16"	408,221 x "	"	20,519,473
20"	42,793 x "	"	2,688,770
Total 12,472,794			197,451,439

Then 197,451,439 ÷ Pi (12,472,794) equals 5.039 in.

Having determined the average pipe diameter and its cost per foot to lay it was then possible to draw Graph No. 2 showing the Cost to Restore for each classification.

With the aid of the graph, the final table was computed:

[fol. 509]

Table 4

Cost to Restore Steel Mains

Feet of A, B, C, & D	10,778,864 Ft.	x	$0.0000	equals	$000,000.00
" " E	1,116,602 "	x	.3258	"	363,788.93
" " F	290,903 "	x	.6516	"	189,552.39
" " G	203,631 "	x	.9774	"	199,028.94
" " H	82,794 "	x	1.3032	"	107,897.14
Total	12,472,794 Ft.				$860,267.40

Total Cost to Restore, $860,267.40.

Trusting that I have successfully carried out your instructions, I am,

Respectfully yours, N. L. Hoff, Assistant Engineer.

cc. Wm. Henderson.

[fol. 510] Transportation Department

March 8, 1930.

Mr. R. U. Fitting, Valuation Engineer.

Sir: Enclosed you will please find a résumé of my survey of transportation units estimating the amounts necessary to place the fleet in 'Condition as Good as New,' January 1st, 1930.

The amounts in the tabulation shown under the columns headed, 'Motor, Overhauls, Top and Body, Painting, Tires and Tubes,' were determined by the several methods explained on the sheet accompanying the large detail tabulation.

The two additional amounts shown at the bottom of the table namely, Minor Repairs and Garage Overhead were obtained as follows;

Minor repairs to the fleet for the year 1929 equalled $43,672.43. Our records show this to be the net amount of direct labor and material charged to 16,192 minor repair jobs; an average of $2.70 per job or with 500 cars, $87.44 per car.

The maximum amounts used in accounting system of Transportation Department for Minor Repairs are: Ford, $25.00, standard passenger cars $100.00, trucks, $100.00. Based on these limits, if all the cars at any one time took the maximum amount of minor repairs, the weighted average per car would be $29.45 or a total of $14,725.00 for the fleet. With a fleet of 500 units it is safe to assume that the immediate requirements at any given time would range from $0.00 to $29.45 or $14.73 per unit. This equals $7365.00 the amount shown in the table for Total Minor Repairs.

Overhead garage expense was added because the totals given in the columns of the table are based on labor and materials charged directly to cars. This amount contains the additional charges such as: supervisory, clerical, garage labor (not directly charged to cars), power, gas, water, lubricants, (not motor oil) bolts, nuts, washers, rags, sponges, and miscellaneous office garage supplies.

The percentage added to each total is 39.956%. This amount represents the net amount that should be added as a proper overhead charge in the present purpose since, machinery depreciation, car depreciation, gasoline, oil, parts,

all directly charged labor, rentals, etc. have not been included in this figure. The figure from which this was derived was the percentage of the Overhead garage expense amount prorated proportionately to the total amounts of the Minor repairs, Motor overhauls, Body and Top repairs, Painting, Accidents, Tires and Tubes, for the year 1929.

Based upon my analysis and my knowledge and experience in connection with repairs and replacements on automotive units, I believe that the cost to restore the Corporation's fleet to 'As Good as New' condition as of January 1st, 1930 was—$150,625.57.

(Signed) A. S. MacDougal, Chief Clerk to Superintendent of Transportation.

[fol. 511] Exhibit No. 35 is a copy of two of the reports made to me by the various men who inspected the items of physical property and also who made the computations which I required on the distribution system.

The Company has established a system of inspection of mains as the same are exposed for any purpose, and a total of 5,574 of such inspections are recorded, based upon comparison with samples available to the foreman, showing different conditions and degrees of deterioration of the mains, upon which I have predicated my conclusions respecting the accrued depreciation to the mains. In my opinion the $3,470,326 represents the amount which should be deducted from the cost of reproduction new as representing accrued depreciation of the property, which sum represents an inventory and appraisement of the actual depreciation and includes all depreciation shown to exist by engineering inspection; it is not based upon life or age tables, but wholly on actual inspection.

A reasonable annual charge to operating expense to [fol. 512] cover accruing depreciation and to provide an adequate reserve for contingencies would be $1,300,000. This is about 2 per cent of the reproduction cost of the property, which I believe is a reasonable amount. It also takes into consideration the actual experience of the Company in retirements over the past years, and the present condition of the property and possibility of replacements from time to time brought about by conditions which can-

not now be foreseen. The depreciation reserve for the gas department on January 1, 1930 was $9,350,689.16; the accrued depreciation was $3,470,326, which would leave $5,880,363 in the reserve as a contingent fund. In my opinion this is insufficient for a property of this size and operating under conditions existing. The interest on such contingency fund should be added to the fund itself.

The items shown in Exhibit 32 for working cash capital and for materials and supplies are the same as shown in the historical cost estimate and the testimony previously given applies thereto.

The item of cost of financing, $5,921,470, represents the cost of selling the securities which would be required for the reconstruction of the property, including brokerage and issuance expenses.

The item of $2,500,000 for promoter's remuneration is arrived at on the basis of my judgment of what would be a reasonable compensation to the person who conceived an enterprise of this kind and made the necessary investigations and plans and secured franchises and financial backing; such a person would necessarily be one of con- [fol. 513] siderable ability and a long period of time would be required in such work.

In my opinion the fair value of the Company's property used and useful in its gas service, as of January 1, 1930, excluding going value but including materials and supplies and working cash capital, is $85,484,429.

I have examined the operating expenses of the Company and they are reasonable. The Company is exceptionally well and efficiently operated.

In the larger cities of the United States there has been a decided falling off in the sales of gas to domestic consumers, brought about by a change in the mode of living. As cities grow the trend toward apartment houses becomes more pronounced, with smaller quarters and frequently both husband and wife employed outside the home. A large amount of the gas otherwise used for cooking purposes would therefore be used in restaurants, which does not require nearly as much gas consumption as individual stoves or ranges.

Cross-examination:

The accrued depreciation of $3,470,326 is that which has accrued over the entire life of the property and determined as I saw the physical property at the time of inspection, regardless of how many years it took to accumulate such depreciation. There are numerous contingencies which may require the writing off of property, such as change of street grades, requiring replacement of mains, all of which are dependent upon the growth of the city. Depreciation reserve does not have any necessary relation to the accrued depreciation of the property. Frequently property in per- [fol. 514] fect condition may have to be replaced, as has been experienced many times in the history of this Company. Accruals must be made on some uniform basis over the years in order to permit such replacements as are required. Actual depreciation may be entirely different; it might come on gradually or suddenly. In my opinion the age of pipe has no bearing on accrued depreciation. Cast iron pipe, except under unusual conditions, is practically everlasting. Steel mains, while perhaps not so long-lived, will not deteriorate rapidly if soil conditions are reasonably good, as they are in the greater part of Los Angeles—good drainage and intermittent rainfall, together with a large proportion of paved streets. The 5,574 inspections of steel mains give a good cross-section of the condition of the system, although the necessity for inspection probably indicates that the condition found is below the average. A wrought iron main used to be considered better than a steel main, but today I am not so certain that there is so much difference, particularly with the Company's present practice of wrapping the mains as they are laid. The wrought iron main is more expensive. Its cost is about 60 per cent higher. It is, of course, impossible to keep the units of a property continually new. If the unit is in good condition, operating efficiently, and there are no worn out parts that need replacement, then the unit is as good as new. It is as good today as the day it was installed originally. This is what I mean by "cost to restore." I do not concern myself with the life expectancy. All that I am concerned with is the condition of the pipe as it is in [fol. 515] the ground and as I see it.

The entire plant here is operating efficiently and, therefore, there would be no deduction on that account in my cost to restore. But what I do include is the fact that there is actual deterioration in certain parts. Regardless of the fact that I know that one of two pipes found in the ground is going to last for only ten years and the other will last for twenty years, if they were in the same physical condition, I would make the same deduction for accrued depreciation. If not in the same physical condition, I would make a different appraisal of accrued depreciation. If there is a hole all the way through a main I would replace it entirely, but if the hole is only partially through, I would not make any replacement at the time, but I would acknowledge that the main was not as good as new, and I would measure the difference between what it would be as good as new and its existing condition by the factors which I have shown.

These estimates include the entire cost of excavation of mains when there is a complete replacement, and a proportionate part of such cost where the necessary replacement is less than entire.

I have seen some of the foreman's reports on mains, but I did not go into the detail of such reports. I assume that they were correctly compiled and have accepted such reports, except that I have substituted other designations of condition for those used by the foreman. I thought that the percentage of condition method was poorly conceived and inaccurately expressed the condition in which the main actually was. I have, therefore, substituted grades for [fol. 516] the foreman's percentages, without changing their reports or opinions in any other respect. The foreman's reports are predicated entirely on comparison with the sample of pipe in the Company's office. The pipe to which the foreman gave a condition of 100 per cent I have put down as Class A; the pipe accorded 90 per cent condition I designated Class B, and likewise have graded the other percentages straight down. The pipe to which the foreman assigned a 50 per cent condition I graded F and took off one-half of the cost of replacing the pipe completely as representing accrued depreciation, but on pipe which I graded A, B, C, and D, I made no deduction for accrued depreciation because I did not think that any could be eco-

nomically made and I felt that the pipe was as good as new. I have made no study and cannot say whether the mains in the system from ten to twenty years of age would cost more to restore than those under ten years of age.

The same method was employed in determining the accrued depreciation on services. Mains constitute the largest single amount in the valuation, the reproduction cost estimate being $27,217,755. Services account amounts to $10,752,021.

I have given a 100 per cent condition to a meter that goes through the shop and is repaired and is pronounced by the Service Department to be in 100 per cent condition, whether it is one year old or twenty-five years old. Out of 390,000 meters the Company has retired less than 14,000, including fire losses and all other causes. There has been a change in the design of tin meters. A 45-light meter of the present day has a greater capacity than an old meter of [fol. 517] similar bulk and size, but that is no reason why I should deduct accrued depreciation, as the meter is adequate for use at one location or another.

On automobile equipment I have deducted the cost of painting, tires and replacement of parts. It would not be a new car and would not have the exchange value of a new car, but I have given it a condition as good as new and have deducted nothing for accrued depreciation. What the Company is entitled to is a return on its investment as long as that property is efficiently used for the public and kept in the best possible condition.

So far reduced consumption of gas for domestic service in the Los Angeles District has not become apparent, and it is my opinion that for domestic cooking and hot water heating there will be no apparent increase in sales. As the use of gas is developed it is first for cooking purposes, later for water heating and then for house heating, and there is a continuous lag in the development of these various uses. In Los Angeles we have apparently reached the saturation point and the increase which has been noted due to the development of additional uses is about over, as practically every consumer is now using gas for cooking and water heating. In my opinion, from now on the sales per meter will not materially increase and will show only the customary variations with temperature.

I am familiar with the purchase and sale of properties of this character and I can take the property of this Company and sell it to two different purchasers for much more than the reproduction appraisal, including an adequate allowance for going value.

[fol. 518] Under the Commission's practice the cost of selling preferred stock is permitted to be capitalized and the $1,147,000 shown as historical cost of bond discount and expense is of essentially the same character. This amount represents only the difference between the amount received for bonds from the underwriter and the amount received from the public. I do not think that if this cost is capitalized, that the rate of return should be as high as if this cost were not capitalized. We cannot have it at both places.

For the past 2 or 3 years the annual retirements have amounted to about $600,000 per year. When the contingency reserve is built up to an adequate amount, to approximately 10 to 15 per cent of the reproduction cost, further accumulation should cease and the interest thereon applied to annual retirements. If the depreciation reserve were built up to $12,000,000, the interest on that reserve would probably take care of actual current replacements as they are at present. On that basis there would be no reason to allow an operating expense for depreciation.

Overheads have been included on lands taken at their present value for the reason that in the reconstruction of the property interest on the land while held for use and engineering expense in selection of the site and other items would necessarily be incurred in the construction of the aggregate property. The overheads included in any historical valuation represent what the Company should have charged. In all cases the actual expenditure has been made either in operation or construction.

In my reproduction valuation I assumed that the promoter who comes here finds a city exactly as it is today; he finds that it has no gas service, that people generally are [fol. 519] using some other service in place of gas service; that there is a field here for the development of gas service and that with the proper expenditure of time and effort he can secure the business that the Company now enjoys. So he proceeds to arrange its financing program and con-

struction program and proceeds to reproduce it as it is today. And since he is reproducing it exactly as it is today, the cost of doing that would measure the value of the property to its present owners. Regardless of the advantages of gas as a fuel, there is a great inertia to overcome in promoting its use, particularly where an investment must be made by the consumer who has been using some other fuel. I have had experience with this condition in Memphis, Tennessee, where natural gas was recently brought in and in a year only 900 heating consumers had been obtained out of 30,000 gas users. You may assume that there is a crying need for a gas plant in Los Angeles, but that does not do away with the services which the promoter would perform in proving that the project was feasible, in approaching a bank syndicate and arranging for the financing of it, in following through the construction and arranging for engineering reports which would prove the possibilities. He would have to show first of all that he could secure a franchise which was entirely satisfactory to the bankers. I have given no consideration to the actual conditions which might confront a promoter in this state and in this city in respect to obtaining a franchise, but I know that he would [fol. 520] have to satisfy his bankers as to that.

I think the Company's practice has been wrong in that they have apparently charged during the past two years interest during construction on those materials and supplies held for construction purposes. Such materials and supplies should stay in the materials and supplies account, and any amounts that the Company has capitalized in the past on account of interest during construction should be taken out of this capital account. In the valuation figures I have submitted no such interest has been included and no correction is necessary. If such materials and supplies appear in the rate base, then interest during construction should not also be capitalized.

Mr. Phleger, counsel for the Company, stated that all of the persons who are engaged in the preparation of the inventories which have been introduced in evidence by the Company and in the making of the valuations which have been testified to by Mr. Luick are available for examination in this proceeding by any interested party and will be [fol. 521] produced upon request.

Recalled.

I have made an estimate of the going value of the gas department of the Los Angeles Gas and Electric Corporation as of January 1, 1930. Going value is that element of value which inheres in a plant which has an established business as distinguished from one which has yet to create a business; it is the difference in value between a plant which has attached to it a business and which is enjoying revenue, and the bare bones of the same plant without business or revenue. In addition to the value of the business attached, I also take into account the elements of the unification of the property into a harmonious operating whole and the development of an efficient operating organization with a definite operating routine and a satisfactory system of records and the best efficiencies in operating methods worked out. This element of value can be measured by the price which a willing purchaser would pay for such a property over and above the value of the physical property. In arriving at my opinion of the amount of going value I have relied upon my experience in the appraisal of such properties for the purpose of issuing securities, for rate making and for purchase and sale, as well as my knowledge of prices which willing buyers will pay for public utility properties in excess of the cost of reproduction of the physical property after due allowance for depreciation.

I have used as guides in the formulation of my judgment as to the amount of such going value, 3 methods. The first is the gross revenue, it being my experience that a pur- [fol. 522] chaser will ordinarily and reasonably pay for a property with established earnings, and on a stabilized operating basis approximately one year's gross revenue over and above the value of physical property. The second method is a percentage of the physical property; it is my opinion that a purchaser would pay approximately 15 per cent above the cost of reproduction because of the going value of a property so developed. The third method is the per consumer method, which is based upon a determination of the cost of attaching new consumers; this does not allow for developed organization and operating efficiency. In this case the gross revenue method would indicate a value of $15,801,208.21, based on revenues for the year ended December 31, 1929. The percentage of physical properties would

produce a total of $10,638,005. The consumer method should be based on a cost of not less than $25 per meter, or an aggregate of $8,886,700.

In addition to these measures I have given consideration to the fact that the Company has an exceptionally good history of growth, an established business, with satisfactory record of earnings and excellent future prospects. The city of Los Angeles and its adjoining communities have shown a remarkable growth in recent years. Considering all these factors, it is my judgment that the going value of the gas department as of January 1, 1930 is $10,000,000.

Thereupon the Los Angeles Gas and Electric Corporation offered and there was admitted in evidence its Exhibit No. 40, which is in the following form:

[fol. 524] Exhibit 40 is based upon an analysis of the use of gas for cooking and water heating, which are practically independent of temperature conditions, and for house heating purposes, which vary almost directly with temperature variations. The consumption for cooking and water heating was taken by taking the per meter consumption during the summer months when practically no gas was used for heating, and applying this unit throughout the year, with an increase of 5 per cent for the winter months to allow for some slight additional use. The balance of the sales, attributable to house heating, was then reduced to a basis of sales per meter per degree deficiency in temperature below an average of 65 degrees Fahrenheit, in order to afford a basis for estimating future sales. Segration between the first 5 months and the last 7 months of the year is intended to give effect to the actual conditions during the first 5 months of 1930. The average degree day deficiency for the past 10 years has been much less than for the preceding 11 years, and I therefore believe that the 10-year average is a more reasonable basis for estimate than the past 20 years. On such basis I would estimate domestic sales for the year 1930 of about 17,400,000 M cubic feet.

Based upon experience in 1928 and 1929 and verified for the first 5 months of 1930, I believe that the point of saturation in house heating sales per meter has been practically attained, which would hold down any increase in per meter sales. The trend toward apartment house dwelling and the present depression in business will likewise tend to reduce [fol. 525] gas sales because apartment house heating is on a more efficient basis than individual home heating and the depression has a tendency toward consolidation of families, which materially affect gas consumption per meter.

Cross-examination:

In arriving at my estimate of going value I have considered all of the methods I have mentioned, as well as the growth of the territory, but I have not adopted or accepted any one measure as controlling. I could not tell what weight I have given to any method. Going value to some extent depends upon the rate of return which the Company is permitted to earn. I would question very much whether many street railway companies, for instance, which under

no conceivable condition have an opportunity to earn a fair return, would have any going value. But if a utility has a constitutional right to get a fair return, and if it can earn it under rates which would still be reasonable, then it would have a going value. I would say that a utility should be earning a reasonable return in order to have a going value. Any increase in the rate of return that might be permitted under certain circumstances, as a premium for efficient management or operation, would reflect an additional going value. Deficiencies in past earnings below a fair return do not, in my judgment, constitute or create going value. If, however, during such period the Company expends money for development of business, it is foregoing a portion of the return to which it is entitled, and whether such expenses are charged to operation or to surplus, is immaterial, as such expenditures constitute a sacrifice on the part of the stockholders and a cost of developing the business. The cost of $25 per meter for attaching new consumers, the third method I used, has no relation to the [fol. 526] actual cost to the Company, and is made as a part of my reproduction cost valuation. The Company has actually spent about $10.00 per meter for attaching the business, but, in my opinion that would not be sufficient to reproduce the business if the property were reconstructed as a whole. I have considered the possibility of competition and the fact that the Company has competition and so far has prospered despite the competition. I have not discounted the going value because of any questions as to franchises because so long as the business is there and the service I do not consider that that situation would be affected.

My estimates of gas sales are intended to reflect probable earnings of the Company for 1930, considering actual conditions for the part of the year which has elapsed. It does not represent sales for a year of average temperature. In making such an estimate I would have to consider the falling off of domestic sales encountered in the past 3 years, and while these formulas may be satisfactory for general estimating, they fail to take into account actual conditions, other than temperature variations, which do exist and must be considered. I do not believe that taking the average of the past ten years temperatures is a reasonable basis upon

which to fix rates. I have made no study as to the comparison between the number of apartment consumers and individual home consumers. I have made no analysis as to the number of building permits for apartment houses as against individual homes. With no particular investigation in Los Angeles, other than general observation, I know that the trend in all large cities is toward an increasing [fol. 527] percentage of multi-family dwellings, particularly in new construction. If I were to make an estimate at the present time of sales for 1931 and 1932, it would not exceed my estimate for 1930, taking into account the same number of meters.

The reproduction value of the stand-by manufacturing facilities is $12,134,665, and the historical costs approximately $10,532,542.

Recalled.

Thereupon the Los Angeles Gas and electric corporation offered and there was submitted in evidence its Exhibit No. 63, which is in the following form:

[fol. 528]

EXHIBIT 63

Summary of Operating Revenue, Expenses, and Earnings, 1913 to 1929, Inclusive

On Basis of Los Angeles Gas and Electric Corporation Historical Cost as of January 1, 1930

Adjusted for Corporation's Overheads of 14.48% Both as to Additions and Betterments and Retirements

Year	Total gas oper. rev.	Total oper. expenses	Net after taxes & depreciation	Adjustment for overheads (1)	Adjusted net after taxes & depreciation
1913	$3,073,018	$2,345,066	$727,952	$61,408	$789,360
1914	2,917,234	2,346,534	570,700	24,339	595,039
1915	2,762,134	2,172,479	589,655	16,269	605,924
1916	3,146,762	2,248,844	897,918	32,993	930,911
1917	3,388,892	2,543,162	845,730	35,087	880,817
1918	3,473,532	2,568,742	904,790	2,069	906,859
1919	4,401,769	3,230,953	1,170,816	74,658	1,245,474
1920	5,505,577	4,298,148	1,207,429	113,869	1,321,298
1921	6,826,709	5,707,140	1,119,569	403,794	1,523,363
1922	8,558,827	6,491,095	2,067,732	465,194	2,532,926
1923	8,651,951	6,358,116	2,293,835	405,276	2,699,111
1924	10,024,928	7,008,997	3,015,931	263,498	3,279,429
1925	10,961,514	7,495,193	3,466,321	81,434	3,547,755
1926	11,336,149	7,877,639	3,458,510	16,546*	3,441,964
1927	14,552,225	9,526,048	5,026,177	14,660	5,040,837
1928	14,839,422	9,776,390	5,063,032	49,549*	5,013,483
1929	15,801,208	10,110,794	5,690,414	18,074*	5,672,340
1930	16,187,623 (2)	10,901,999 (2)	5,285,624	.....	5,285,624

(1) Overheads which were included in operating expenses, but which should have been carried to capital had 14.48% overheads been charged.

(2) Estimate first four months actual, others estimated.

NOTE—This calculation is made for the sole purpose of showing what would have been the company's rate of earnings had the company charged overheads as shown hereon instead of the overheads it actually charged. It has no relation to the earnings on the fair value of the property.

* Figures in red.

EXHIBIT 63—Continued

Summary of Operating Revenue, Expenses, and Earnings, 1913 to 1929, Inclusive

On Basis of Los Angeles Gas and Electric Corporation Historical Cost as of January 1, 1930

Adjusted for Corporation's Overheads of 14.48% Both as to Additions and Betterments and Retirements

Year	Aver. cap. for year based on corp. appraisal 1-1-30	Working cash & materials & supplies	Brokerage expense on bonds	Total average capital	Adjusted net after taxes & depreciation	% of earnings to ave. cap. for year	Deficiency of earnings below 8%
1913	$14,637,695	$573,111	$279,711	$15,490,517	$789,360	5.10%	$449,225
1914	15,276,359	543,940	291,180	16,111,479	595,039	3.69	694,405
1915	15,663,601	515,063	298,088	16,476,752	605,924	3.68	711,796
1916	16,118,179	586,665	306,202	17,011,046	930,911	5.47	430,379
1917	16,672,747	632,042	316,127	17,620,916	880,817	5.00	528,627
1918	16,981,934	647,659	321,636	17,951,229	906,859	5.05	529,561
1919	17,519,656	820,919	331,273	18,671,848	1,245,474	6.67	248,336
1920	18,839,525	1,026,590	355,103	20,221,218	1,321,298	6.53	297,252
1921	23,093,459	1,269,978	432,190	24,795,627	1,523,363	6.14	461,199
1922	31,080,654	1,596,165	577,036	33,253,855	2,532,926	7.62	126,365
1923	39,760,628	1,613,255	734,498	42,108,381	2,699,111	6.41	669,523
1924	47,738,092	1,869,314	879,039	50,486,445	3,279,429	6.50	757,297
1925	53,887,790	2,044,046	1,054,075	56,985,911	3,547,755	6.23	1,008,651
1926	57,178,158	2,113,880	1,049,019	60,341,057	3,441,964	5.70	1,387,844
1927	59,261,063	2,713,805	1,086,207	63,061,075	5,040,837	7.99	6,306
1928	61,132,358	2,767,138	1,119,600	65,019,096	5,013,483	7.71	188,555
1929	62,663,561	2,946,585	1,147,802	66,757,948	5,672,340	8.50	333,790*
1930	64,579,426	3,018,629	1,182,890	68,780,945	5,285,624	7.68	220,099
Reproduction Cost New Basis:							
1929	94,713,096	.....	.....	.....	5,672,340	5.99	1,904,708

NOTE—This calculation is made for the sole purpose of showing what would have been the company's rate of earnings had the company charged overheads as shown hereon instead of the overheads it actually charged. It has no relation to the earnings on the fair value of the property.

* Figures in red.

[fol. 530] In this exhibit I have shown the operating revenues and expenses from 1913 to 1929, inclusive. I have also shown the adjustment of expenses, depreciation and taxes to reflect the proper overhead charges which should have been made during those years instead of the charges actually made on the Company's books. The difference between 14.48 per cent, which I have testified is the proper historical charge for overheads, and the amounts actually charged will increase the capital account each year and reduce operating expenses as to engineering and superintendence, general and administrative expense. Other overheads are not charged to operating expense at any time. From these adjustments the exhibit shows the return actually enjoyed on historical cost after making correction for overheads to conform to the result of my study of what would be proper overheads. I have also shown the amount necessary to provide an 8 per cent return on the historical cost as so adjusted and the deficiency of actual earnings, after credit for inadequate overhead charges, below such return. With the exception of 1929 the earnings after adjustment were less than 8 per cent in every year. The accumulated net deficiency below a return of 8 per cent on historical cost at the end of 1929 amounted to $8,161,531.

The Company did not charge to operating expenses, overhead expenditures which should have been charged to capital, in any year in which it earned 8 per cent or more on its historical reproduction value. The percent of earnings on average capital was less than 8 per cent in every year with the exception of 1929, in which year the proper overheads were charged. In the years 1928 and 1929, correct [fol. 531] overheads were charged and in those years the Company did not charge on its books as operating expenses any sums which should properly have been carried to capital.

[fol. 532] ALTEN S. MILLER was called as a witness on behalf of Los Angeles Gas and Electric Corporation, and having been duly sworn, testified as follows:

I am by profession a mechanical engineer, consulting engineer and contractor; I graduated from the Stevens Institute in Hoboken in 1888, with the degree of mechanical engineer; I then worked for the United Gas Improvement

Company of Philadelphia in drafting and elementary designing work and in August of the same year went to Omaha, Nebraska, as assistant superintendent of the gas plant there, where for 4 years I operated the manufacturing plant and looked after the extensions of the plant and distribution system and personally kept cost records of the extensions, and during the last 2 years of such work I was intimately in contact with the manager of the commercial department.

In 1892 I became manager of the National Gas, Light & Fuel Company of Chicago, a company controlled by the same interests as the Omaha Company, and my duties there were to keep the books of the company, canvass for new business, and in certain classes of new business to arrange for necessary construction work.

In 1894 I became engineer of the East River Gas Company of Long Island City and was engaged in enlarging its plant, building a tunnel under the East River, and entering into competition for the gas business in New York City. After a few years this company was consolidated with the Equitable Gas Light Company as the New Amsterdam Company, I having charge of commercial, manufacturing and engineering matters. In 1898 I was retained [fol. 533] as consulting engineer of the Lincoln, Nebraska, Gas and Electric Company and advised that company in connection with the development of its business and properties and laid out a complete accounting system therefor. About the same time I was retained as consulting engineer by the Brooklyn Union Gas Company, particularly in connection with a new manufacturing plant they were constructing.

In 1900 the Consolidated Gas Company acquired control of the New Amsterdam Company, and in addition to my position as engineer to the New Amsterdam Company, I became engineer of construction for the Consolidated Gas Company. While with the New Amsterdam Company I built up the plant to a capacity of approximately 30,000,000 cubic feet per day, and while with the Consolidated Gas Company I laid out the Astoria gas plant, which, until a few years ago, was the largest in the United States, as well as a number of extensions to its plants on Manhattan Island.

In 1902 I became vice-president and manager of the Consolidated Gas Company of Baltimore, which had 3 small plants. I had charge of building up the organization, building new plants and laying out a complete accounting system. Shortly afterward that company acquired the electrical properties and as vice-president and general manager of the consolidated properties I built a new electric plant and laid out a new system of rates therefor.

In 1906 I was interested in the organization of the Hyattsville Gas and Electric Company, became president thereof and organized and developed its plant and busi- [fol. 534] ness.

In 1908 I made a study of natural gas operations in Pittsburg and Cleveland in connection with a proposition of the Standard Oil Company to bring natural gas to Baltimore from West Virginia. The plan did not materialize because the available gas was not as great as anticipated.

For 2 years following 1909 I was in St. Louis as vice-president and manager of the Union Electric Light and Power Company and not connected with the gas business. I then formed a partnership with Dr. Alexander C. Humphreys as consulting engineers and appraised a number of gas properties and testified in connection therewith.

In 1912 I made an examination of the natural gas in the Midway District of California available for transmission to Los Angeles on behalf of the Los Angeles Gas and Electric Corporation and advised the officers of the company on that project.

In 1913, on behalf of an English and Hungarian syndicate, I investigated the natural gas resources in Transylvania.

Between 1911 and 1915 the firm of Humphreys and Miller bought control of the Hyattsville Electric Company, previously mentioned.

In 1915 I became vice-president of the Bartlett-Hayward Company, with headquarters at Baltimore. This company is a contracting company, principally engaged in gas plant construction. That company built about 50,000,000 cubic feet of storage capacity in Los Angeles and a considerable part of the No. 3 manufacturing plant of the company and [fol. 535] other construction projects on the Pacific Coast. During the war period the Company was engaged in the manufacture of ammunition as well as gas plants.

In 1918 I was a lieutenant colonel in the Ordnance Division and had charge of the design of projectiles in that department.

In addition to contracting and construction work I have appraised and testified concerning the properties of Washington Gas Light Company, Grand Rapids Gas Company, Consolidated Gas, Electric Light and Power Company of Baltimore (both gas and electric), and all of the gas properties in Greater New York. I have appraised and testified in respect of the latter properties at least twice, and in some cases three times, and am now engaged in appraising the gas properties on Long Island, outside of the City of New York.

I have had experience in the design, construction, management and accounting of gas properties and have testified in various court and commission proceedings with respect of valuation and operation of such properties.

I am a member of the American Institute of Consulting Engineers, a Fellow of the American Institute of Electrical Engineers, a member of the American Gas Association, American Society of Mechanical Engineers, the Illuminating Engineering Society and Society of Gas Lighting of New York.

I am familiar with the properties of Los Angeles Gas and Electric Corporation. In addition to the 1912 investigation of natural gas resources and the construction work done by Bartlett-Hayward Company, already mentioned, I spent 3 or 4 weeks in Los Angeles about 5 years ago in [fol. 536] connection with the construction of a 15,000,000-foot capacity waterless holder, and at that time I examined the Company's property and discussed its problems with the Company's officers. About 3 years ago I was again in Los Angeles in connection with a case before the California Railroad Commission involving Southern California Gas Company, and again discussed operating and construction conditions with the officers of the Los Angeles Gas and Electric Corporation. In October or November, 1929, I again visited Los Angeles in preparation for this hearing and studied the Company's conditions, and have been in Los Angeles over 2 weeks in preparation for the present hearing. I am generally familiar with the plants and properties of the Company and its operation and management.

Thereupon the Los Angeles Gas and Electric Corporation offered and there was received in evidence Exhibit No. 36, which is in the following form:

[fol. 537] EXHIBIT 36

Going Value

Going Value as used here is defined as the difference between a completed property not operating and not supplying customers not having an operating organization and not having operating records and history behind it, and an operating property and organization running efficiently and having a history of earnings.

It is difficult to determine the actual cost of securing the business and organizing the property and personnel, but it has undoubtedly been a large amount. This exhibit is largely devoted to an estimate of the cost of reproducing this portion of the going value.

It is not possible to determine in exact figures the portion of going value represented by a long history of good management and good earnings, but it would be a substantial sum.

Basis of Computations

In figuring the cost of reproducing the property, Mr. Luick, witness for the company, has laid out a construction program and beginning the second year and running through the sixth year has turned over certain properties to the operating department. When this turnover has been made, Interest During Construction ceases and operations must take care of the interest as far as possible.

The construction program provides for turning over for operating one twentieth of the service mains during each quarter of the second to sixth years inclusive. On the average it might be possible to secure sixty percent of the average existing business by the end of the first year after each unit is so turned over eighty-five percent by the end of the second year and a hundred percent by the end of the third year. It is not reasonably possible to do better than this and my belief is that under present conditions of competition the company would be unable to get a substantial portion of its present business if it had to start over.

[fol. 538] On the above basis the revenue producing meters in service at the end of each year might be as shown in the following table. The percentages are computed from the accumulated figures for the mains in service at the end of the year. These percentages are applied to 355,468, which was the number of revenue producing meters in service December 31st, 1929. The years referred to are the construction years shown by Mr. Luick and a continuation of the same.

Meters Attached Each Year

Year	Per cent	Number
2	12	42,656
3	17	60,430
4	20	71,093
5	20	71,094
6	20	71,094
7	11	39,101
	100	355,468

An examination of the company's records indicates an expenditure for new business during a period of five years ending December 31st, 1929, of $638,700.44. This amount includes $125,000 spent for advertising and not charged directly to New Business account. During the same period 65,130 revenue producing meters were gained and the average cost of each was $9.81. This cost would be substantially exceeded in reproducing the entire business and the minimum figure of $10.00 per meter has been used to cover the cost of advertising, canvassing and special commissions.

[fol. 539] Income Each Year

For simplicity of computation each meter is supposed to earn the average amount earned per meter in 1929 starting from the moment it is set. This, as a matter of fact, would not be the case. The income during 1929 available for interest and dividends was $5,690,414.23. The expenditures for new business including $25,000.00 for advertising was $134,-

413.83. Adding the two the total is $5,824,828. The earnings each year and the percent of $5,824,828 is as follows:

Year	Per cent	Amount
2	6	$349,490
3	20.5	1,194,090
4	39	2,271,683
5	59	3,436,649
6	79	4,601,614
7	99	5,766,580
		$17,620,106

Cost of Organizing Property and Personnel

My experience in connection with the construction of new properties and the additions of large new units is that it takes time and money to make the combination efficient. This amount will be found in increased labor costs, greater labor turnover, increased material consumption, minor additions and charges not generally to be found in the capital account and in increased personal and property damages as compared to final efficient operation.

No attempt has been made to compute this amount during the six operating years by reason of the unnecessary complication. The computation is made on the basis of the [fol. 540] property and personnel as they existed December 31st, 1929.

During the first year the New Enterprise will cost to operate at least fifteen per cent, during the second year at least ten per cent and during the third year at least five per cent more than the cost of normal efficient operation. From the operating expenses of 1929 there has been eliminated the cost of gas purchased for distribution, Taxes, New Business, and Depreciation. The cost of New Business has been included in the cost of $10.00 per meter, and the other costs eliminated do not change with the efficiency of the property and personnel. The costs would be as follows assuming three years of training.

$3,094,896.03 × .15 × .30	139,270
× .10 × .725	224,380
× .05 × .925	143,139
	506,789

Interest to be Provided from Operations

In addition to the value of the physical property to be carried out of the income from operations, there must be carried the expense of financing and the amount of the promoter's remuneration. The latter is customarily paid in advance and the former as the money is obtained. The financing cost, therefore will be added to the value of the property coming into service each year. This cost of financing was shown by Mr. Luick to be 8.07 per cent of the money raised, but for case of computation 8 per cent has been used.

The second year will start with $151,500 to which is to be added Eight per cent for financing and the promoter's remuneration. Subsequent units of property must likewise be increased by the amount of the cost of financing.

[fol. 541] Computation of Interest from Operation

2nd Year

	2,500,000 × .08	200,000
151,500 × 1.08 =	163,620 × .08	13,090
152,000 × 1.08 =	164,160 × .08 × ¾	9,850
2,376,055 × 1.08 =	2,566,139 × .08 × ½	102,646
3,430,826 × 1.08 =	3,705,292 × .08 × ¼	74,106
6,110,381	9,099,211	399,692

3rd Year

	9,099,211 × .08	727,937
4,276,397 × 1.08 =	4,618,509 × .08	369,481
4,644,308 × 1.08 =	5,015,853 × .06	300,951
3,578,159 × 1.08 =	3,864,412 × .04	154,576
2,537,159 × 1.08 =	2,740,132 × .02	54,803
	25,338,117	1,607,748

4th Year

	25,338,117 × .08	2,027,049
3,734,160 × 1.08 =	4,032,893 × .08	322,631
2,537,160 × 1.08 =	2,740,133 × .06	164,408
3,558,160 × 1.08 =	3,842,813 × .04	153,713
2,541,160 × 1.08 =	2,744,453 × .02	54,889
	38,698,409	2,722,690

5th Year

	38,698,409 × .08	3,095,873
8,895,160 × 1.08 =	9,606,773 × .08	768,542
2,544,160 × 1.08 =	2,747,693 × .06	164,862
3,713,487 × 1.08 =	4,010,566 × .04	160,423
2,544,660 × 1.08 =	2,748,233 × .02	54,965
	57,811,674	4,244,665

[fol. 542]

6th Year

	57,811,674 × .08	4,624,934
7,143,160 × 1.08 =	7,714,613 × .08	617,169
2,586,579 × 1.08 =	2,793,505 × .06	167,610
2,586,580 × 1.08 =	2,793,506 × .04	111,740
7,089,730 × 1.08 =	7,656,908 × .02	153,138
	78,770,206	5,674,591

7th Year

	78,770,206	
6,582,498	6,854,323*	
	85,624,529 × .08	6,849,962

Eight per cent return for computing interest costs was not used because it was considered adequate for this company. Counsel for the company requested that the same rate of interest be used that was used in computing interest during construction.

Cost of Attaching Business

2nd Year

Interest on operating property	399,692
Advertising and Canvassing	426,560
	826,252
Less earnings	349,490
	476,762

* Carries Correction in Financing Factor to make Total Cost Agree with Mr. Luick.

Beginning of 3rd year	$476,762
Interest on balance	38,141
Interest on operating property	1,607,748
Advertising & Canvassing	604,300
	2,726,951
Earnings	1,194,090
[fol. 543] Beginning 4th year	1,532,861
Interest on balance	122,628
Interest on operating property	2,722,690
Advertising & Canvassing	710,930
	5,089,109
Earnings	2,271,683
Beginning of 5th year	2,817,426
Interest on balance	225,394
Interest on operating property	4,244,665
Advertising & Canvassing	710,940
	7,998,425
Earnings	3,436,649
Beginning of 6th year	4,561,776
Interest on balance	364,942
Interest on operating property	5,674,591
Advertising & Canvassing	710,940
	11,312,249
Earnings	4,601,614
	6,710,635
Beginning 7th year	$6,710,635
Interest on balance	536,851
Interest on operating property	6,849,962
Advertising & Canvassing	391,010
	$14,488,458
Earnings	5,766,580
Cost of attaching business	$8,721,878
Cost of organizing property & Personnel	506,789
	$9,228,667

[fol. 544] To this amount would be added the value of the operating property due to its history of good service and earnings including its records which aid in operating efficiency. This value would be in addition to and would in no way overlap the value measured in dollars in the amount shown above.

[fol. 545] The going value of an operating gas utility is the difference between the value of the bare equipment as installed complete and not operating, and the value of that same plant and equipment operating with a history behind it, with records, and earning a return. Going value can in part be measured as to the cost of reproducing the business, the creation of the organization and of efficient functioning of the property, but it is hard to estimate the value of the history behind the Company and the economies growing out of its records, which serve as a standard to produce efficient operation. The Los Angeles Gas and Electric Corporation has in respect of its gas properties a going value which I have appraised.

I have attempted to determine only that portion of going value comprised in the cost of organizing the property and [fol. 546] personnel and producing the business and have not attempted to appraise that portion of going value represented by a history of good management and earnings. I have used as a basis the construction program set up by Mr. Luick, under which the property would be completed in approximately 6 years. It has been my experience in developing gas business in new sections that not over 60 per cent of business which an older territory enjoys can be built up by the end of one year. About 25 per cent would be added by the end of the second year, 15 per cent at the end of the third year, and I have assumed that the balance would be added by the end of the fourth year. I have therefore computed the business (based on that actually enjoyed in 1929) which would be developed on the lines constructed in each year, as shown by Mr. Luick's construction program.

In the earlier years of operation there is a substantial increase in the cost of operation, labor being less efficient and there being a greater wastage of material and breakage of material and minor changes which are not reflected in capital account. These will usually cause an excess operating cost of 15 per cent in the first year, 10 per cent in the second year and 5 per cent in the third year. In certain cases

the excess cost would be more, but these figures seem to be a minimum.

In addition I have computed the interest each year on the plant that has been turned over to the operating department. I have computed 8 per cent interest on the cost of the property as completed from time to time, although in my opinion the interest during that period would be in excess [fol. 547] of 8 per cent.

I have also included the cost of advertising and canvassing for new business, using $10 per meter gain based on experience of the Company (which amount I consider to be a minimum). In this way the cost of reproducing the business and organizing the property and personnel amounts to $9,228,667, without any attempt to put a money value on the going value attributable to a history of good service and earnings and efficient records. In my opinion the minimum going value of the gas properties of the Company as of January 1, 1930, is not less than $9,228,667. The minimum fair value of the properties of the Company employed in its gas business, including going value as of January 1, 1930, is not less than $94,713,000.

My methods in arriving at this value may be summarized as follows: I have divided the problem into two parts, first, the cost of organizing the property and personnel, and second, the cost of securing the business. The method employed in arriving at the cost of securing the business was to estimate year by year during the construction period the difference between 8 per cent interest on the property used and useful during that year and the net earnings estimated to have been received during that year; the total of these differences, with interest thereon, during the period rquired to secure the present business of the Company, was taken as representing the cost of securing that business and was used in arriving at the value thereof.

I have used the present earnings of the property and have allocated to each meter in service the income presently received, and in my estimate I have not charged to operating [fol. 548] expenses during such period any expenditures for advertising or securing new business.

I have studied the overhead percentages used by Mr. Luick and have argued with him in regard thereto, as I felt that they were not sufficient; I am a contractor and familiar with such overheads and have made a particular

study of the overheads used in Mr. Luick's appraisal, as well as being generally familiar with such costs, which do not vary greatly among different companies. In my opinion between 30 and 35 per cent, in the aggregate, should have been charged for such overheads.

The construction period used by Mr. Luick in his estimates is fair and reasonable and calculated to bring each item of property into use at the earliest possible date.

The interest rate of 8.07 per cent used by Mr. Luick is, in my opinion, too low. The item of $5,921,470 for cost of financing is a minimum figure which I believe would be exceeded, and also the $2,500,000 for promoter's remuneration is a minimum which I believe would be exceeded.

I have examined the plants and properties of the Company and in my opinion they are all used and useful in the service of the public. The reserve capacity of the manufacturing plant is none too great. In my opinion it is very important that a substantial reserve capacity be maintained. Even in Pittsburgh the Bartlett-Hayward Company has built large stand-by plants. In Buffalo the stand-by plant has been added to. Both of these cities are served with natural gas. This was done to assure the maintenance of service at all times. I know of no large city served by [fol. 549] natural gas which has not a stand-by plant of substantial capacity, and if the Los Angeles Gas and Electric Corporation did not at this time have a manufacturing plant of substantially the capacity of the present plant, it would, in my opinion, be necessary to construct such a plant.

I have examined the operating expenses of the Company and am of the opinion that they are fair and reasonable and in fact low, and that the Company is efficiently operated. Its operating expenses are low compared to other companies. I have compared the operating expenses, excluding cost of gas and taxes but including all other expenses, of gas companies in Brooklyn, Chicago, Baltimore, Boston, Buffalo, Pittsburgh, Detroit, Rochester, Washington and Los Angeles for the year 1928. Such expenses range from $11.71 per meter to $14.03 per meter in cities other than Los Angeles and are $10.80 per meter in Los Angeles.

In the larger, more closely built-up cities there is a definite drift into apartments from independent houses, and

in such cities the gas sales per meter are declining. This has been the experience in New York and Brooklyn. In suburban towns the trend is not so apparent.

Fire constitutes a substantial hazard in the gas business. The Baltimore fire, in 1904, had a serious effect on the gas company, necessitating replacing destroyed meters, relocation of practically all the services due to rebuilding on different lines, and causing the loss of a great deal of business during the period of reconstruction.

[fol. 550] Cross-examination:

In the case of a city supplied by manufactured gas, having a large number of manufacturing units, about 25 per cent of the maximum demand is sufficient for reserve capacity. If Los Angeles were served with natural gas exclusively from the Midway field, it should have a reserve capacity of over 100 per cent. With a number of nearer fields available, where it is not so likely any catastrophe would put all lines out at the same time, the reserve should be sufficient to reasonably take the place of one or two of the largest feeder lines into the territory. Even in an emergency it would take a week or ten days to replace a pipe line crossing a river.

The cost of producing a going value will depend somewhat on the rate of charge for the service. Generally speaking, the higher the rate, within reason, the less the cost of developing going value. The amount that the Company is failing to earn an adequate return will be added each year as an increasing cost of carrying on and getting business now.

Early losses have no relation to going value. They might develop from mismanagement and other causes and a well-managed company has a greater going value than a badly operated company which has lost a lot of money. The figures which I have used are not losses in early years, but are expenditures in the development and production of the business of the Company and my estimate of going [fol. 551] value is an estimate of the costs which were actually incurred and would be incurred under an assumed reproduction of the property.

I do not consider that the inclusion in going value of an 8% return on the capital invested during a six year re-

construction period is a capitalization of early losses. My estimate of going value is an estimate of costs which have actually been incurred or will be incurred under an assumed reconstruction program, considering that the 8 per cent return is a part of the cost of doing business. I am attempting to determine what it would cost to reproduce this property new including its business.

In my opinion the actual cost that would be incurred to obtain new meters in a reproduction of the property would exceed the sum of $10 used by me. In estimating the procedure under which the properties would be reconstructed and new consumers attached, I have based my opinion in part on my experience in the construction of the plant of East River Gas Company, Long Island City, which plant [fol. 552] I built myself, and also the Gas Company at San Juan, Porto Rico, where I was consulting engineer. In addition I have had considerable experience in developing new territory in and around Baltimore and also in Hyattsville, in the suburbs of Washington, where there was no gas when the company was organized. I have had access to the records showing cost of developing these sections and have studied local conditions to see to what extent they may differ. I believe all of these properties are comparable to the Los Angeles situation. The East River Gas Company and the San Juan Company were both developed as new propositions, as was also the Hyattsville property, which, however was smaller.

Redirect examination:

I have also examined the requirements of the Company for cash, working capital and materials and supplies. In my opinion the reasonable requirements for such purposes are about 9 weeks' income plus the materials and supplies on hand, aggregating about $2,750,000.

[fol. 553] Addison B. Day was called as a witness on behalf of Los Angeles Gas and Electric Corporation and, having been duly sworn, testified as follows:

I am a resident of Los Angeles and am president and general manager of the Los Angeles Gas and Electric Cor-

poration; I have been with the Company for 35 years, beginning as a gas stove salesman for 6 months, then bookkeeper, and after a few years, chief clerk in the gas office, later chief clerk in the electric office, and then manager of the gas appliance department; upon the discontinuance of that department I was for a short time assistant to the second vice-president and had charge of the installation of the gas systems in Hollywood and in Alhambra; after that I was auditor for 2 years, then assistant secretary, and on March 1, 1913, was made manager of operation, in charge of the gas and electric operating departments; later the operating and construction departments were consolidated and I was made manager of both operation and construction; in 1924 I became vice-president and general manager, and since 1928 I have been president and general manager. I am familiar with the operation of the Company's gas departments and I have personally supervised the construction of its manufacturing plants and the greater part of its distribution system.

The predecessors of the present company were Los Angeles Gas Company, incorporated June 28, 1867, and the Los Angeles Electric Company, incorporated October 23, 1882. The present management was inaugurated in November, 1889, when the Lost Angeles Lighting Company was organized to take over the business of the Los Angeles [fol. 554] Gas Company and another small gas business then operating in Los Angeles. In 1904 the Los Angeles Electric Company and Los Angeles Lighting Company were consolidated as the Los Angeles Gas and Electric Company, and in June, 1909, the Pasadena Consolidated Gas Company was merged with the Los Angeles Gas and Electric Company to form the Los Angeles Gas and Electric Corporation. Within the next few years 3 other small gas companies, the Inglewood Gas Company, the Valley Gas and Fuel Company and the California Coke and Gas Company, were acquired, completing the system as it now exists. The operations of the Company cover most of the city of Los Angeles, unincorporated sections adjacent, and all of the cities of Pasadena, South Pasadena, Alhambra, San Gabriel, Monterey Park, San Marino, Huntington Park and Hawthorne, together with parts of the cities of Inglewood, Vernon, Culver City, Maywood and Bell, serving 381,390 consumers of gas, as of June 1, 1930.

The district is one of the most difficult to supply with gas because of the great fluctuations in demand, varying not only between the seasons of the year, but from day to day in the same season. For the month of January, 1930, sales amounted to 2,397,495 m. c. f., while in August, 1929, there were but 803,846 m. c. f. On January 11, 1930, the send-out was 136,205 m. c. f. and on July 31, 1929, it was but 25,918 m. c. f. On January 16, 1930—5 days after the peak send-out of 136,205 m. c. f.—the send-out dropped to 77,815 m. c. f. In Los Angeles gas is practically the only fuel used for heating and exceptionally heavy demands are encountered on cold days. It is necessary to maintain re- [fol. 555] sources and equipment adequate to care for peak demands which may occur but once in a year.

The original gas plant was built in Los Angeles in 1867; in 1875 the plant was removed to the present location, which has since been expanded to 26½ acres and a capacity of 98,500,000 cubic feet per day, of 550 BTU gas. Coal gas and water gas were made prior to 1902. Oil gas was made commencing during the winter of 1902-1903 and a mixture of natural gas with oil gas was started in July, 1913. Straight natural gas was served beginning January 25, 1927. The business really began to grow after the manufacture of oil gas was started, and from 1907 to 1921 the No. 2 plant was built up to a capacity of 28,500,000 cubic feet per day at a cost of $5,000,000. It was from 1907 to 1921 in its complete development. In 1921 the new No. 1 plant was constructed on the site of an old smaller plant, with a capacity of 30,000,000 cubic feet per day and costing $5,825,000. The entire plant was constructed within one year, less than ten years ago, and we put in more capacity that year than we had put in from 1907 to 1921. This was long after natural gas had begun to be used, and we were using a mixed product.

In 1922 the No. 3 plant was started on newly acquired property, and construction continuing in 1923 and 1924, when it was finished, the capacity being 40,000,000 cubic feet per day and the cost $7,322,000.

We have made further provision for additional manufacturing capacity. We have plans for a further development of about 40 million capacity at the Aliso Street works, and in addition in 1926, 119 acres of land were purchased [fol. 556] at a cost of $842,500, as a site for a future gas

plant, which property is still owned and kept for that purpose when it may be needed.

The manufacturing plant is kept in good operating condition and is manned and kept heated in winter. A crew is employed sufficient to operate the manufacturing plant throughout the winter, being used on other work during the summer. The plant is used, useful and necessary, and if we did not have a plant of that capacity we would immediately take steps to build one. We have had experience in the past which has taught us the absolute necessity, for the safety of our own business and the safeguarding of our consumers, of having sufficient auxiliary capacity. In 1906 a shortage in gas capacity was experienced because of delay in the completion of a new holder which had been contracted for; an early and cold fall season was encountered, and without the storage capacity we were unable to keep up the supply of gas and were obliged to shut off the supply for a portion of the day. As a result a competing company was formed and a serious loss of business experienced in addition to the inconvenience to the consumers.

Since natural gas has become available the business has grown very largely and at present practically all domestic cooking, water heating and house heating is done with gas. Many buildings, including hospitals, are constructed without provision for the use of any other kind of fuel and without brick chimneys, so that a shortage now would be extremely serious.

During the war period the use of gas was curtailed, as [fol. 557] well as new construction, but after the war, as business began to expand, the demands of our consumers increased rapidly and we faced a shortage of gas in 1920 and 1921 and great difficulties were encountered in maintaining an adequate supply, even with what natural gas we could get For that reason the large construction program of 1921 and following years was undertaken. It was necessary to wait until spring before rebuilding the No. 1 plant because the capacity that it had could not be dispensed with even for a short time.

I can remember being at the gas works night after night with our Superintendent and two or three other men, having a man on the holder counting rivets, just to see how

far we could allow these compressors to pull that holder down, we calling for every foot of natural gas we could possibly get from every source, getting every foot we could out of the relief holder, our generators going at fullest capacity, and we having cut pressures back so as to prevent the compressors pulling in the crowns of the holders. As a result we saw the necessity of greatly increasing our manufacturing facilities, and that was the reason for the large program of the year 1921, when we rebuilt No. 1 plant at a cost of nearly $6,000,000. Working twenty-four hours a day, three shifts, we completed the plant that year. And even with thirty million added capacity in 1921 we had another shortage in 1922. People were without gas in the hospitals and homes, and I remember there was one death caused in the Hollywood Hospital, attributed directly to lack of fuel. Because of that shortage we started our construction of No. 3 plant in the year 1922. These plants [fol. 558] are absolutely necessary because of the unknown weather conditions we may face in the season, the unknown quantities of natural gas we may get due to supply in the fields or otherwise, and the uncertainty of the permanency of the pipe lines during the winter periods of floods.

Serious floods have been encountered at various times in Southern California. On one occasion the oil pipe line relied upon for the Company's supply of fuel oil was washed out and great difficulty encountered in maintaining an adequate supply by tank car shipments. This difficulty has been alleviated by increased capacity for oil storage. The St. Francis Dam flood in 1928 washed out all but one natural gas pipe line from the north. This was in April. If it had been in winter we would have been forced to use our gas works to its full capacity.

We are now faced with serious competition from electricity and if another gas shortage were experienced we would suffer even more materially from such competition. The Electric Companies have built steam driven plants so as to have a dependable supply in low water years. If such customers were once lost to competing fuel, it would be very difficult to regain them. A very slight interruption in the continuity of gas supply would result in a permanent loss of customers to the Electric Companies.

If we did not have a manufacturing plant of the present capacity, the Company would construct one in order to have adequate stand-by service.

The operating expenses of the Company, in my opinion, are just and reasonable and compare favorably with the [fol. 559] operating expenses of other similar utilities. The fee paid the Pacific Lighting Corporation by the gas department is $86,280 a year and is, in my opinion, reasonable, necessary and proper. It is a result of an arrangement which was made at my suggestion in 1928, effective January 1, 1929, under authorization of the Board of Directors, to retain the assistance of the Pacific Lighting Corporation in the various problems encountered in the management and operation of the Company. The plan has worked out greatly to our advantage, and as a result we have been able to accomplish economies in the personnel of our officers. The Pacific Lighting Corporation's auditor advises us on accounting matters. The Pacific Lighting Corporation pays for the annual audit by certified public accountants. They act as transfer agent for the Company's preferred stock in San Francisco, and handle all matters relating to bond issues and dealings with trustees. We also have the advantage of their regularly retained counsel. Mr. C. O. G. Miller, the president of Pacific Lighting Corporation, has had long experience in gas and other public utility business, and I confer with him frequently in San Francisco or Los Angeles and exchange letters nearly every day about matters of company management. In my opinion the amount paid for the assistance of the Pacific Lighting Corporation is fair and reasonable, and while I do not believe that I could obtain services of comparable quality elsewhere, the cost of doing so would be more than the amount paid Pacific Lighting Corporation. [fol. 560] It was the practice of the Los Angeles Lighting Company and other predecessors of the Los Angeles Gas and Electric Corporation in the earlier days to use cast iron pipe. When high pressure gas transmission and distribution systems came into being we started using wrought iron pipe. We made a number of tests and determined that wrought iron was more nearly like cast iron in lasting qualities than was steel pipe, the steel being more subject to soil corrosion. We therefore determined upon a policy of wrought iron pipe and I remember very dis-

tinctly the means we used and efforts we made to determine that we were getting genuine wrought iron pipe as ordered. It was the practice of the Company to specify in its orders "genuine wrought iron pipe (not steel)." We used to get what was called hand puddled genuine wrought iron pipe, which was a process supposed to be the best way of making such pipe.

[fol. 561] Cross-examination:

When the contract with Pacific Lighting Corporation was made in 1928 my salary was $25,000 per annum. It is now $40,000. The Pacific Lighting Corporation is not an operating company. It owns all of the common stock of the Los Angeles Gas & Electric Company and controls it. I confer with various members of the Board of Pacific Lighting Corporation and often go to San Francisco to see them. Los Angeles Gas Company has its own accounting, engineering and legal departments. One of the principal reasons why Los Angeles Gas Company is efficiently run is because of its connection with Pacific Lighting Corporation. Prior to 1928 when the agreement with Pacific Lighting Corporation was made we had more of an internal organization than we have now. I found myself in the position of trying to manage the property all alone, with two vice presidents only, one whose principal duties were mechanical and the other whose principal duties were financial, and I felt that I needed help and that was the best place to go for it.

I often go to San Francisco to consult with the members of the board of Pacific Lighting Corporation, Mr. C. O. G. Miller, Mr. R. W. Miller, Mr. August Schilling, Mr. Rudolph Schilling and Mr. Van Sicklen. I have a high regard for their advice. The first three are members of the board of directors of the Los Angeles Gas and Electric Corporation, but they live in San Francisco and very seldom attend the [fol. 562] directors' meetings. I do not depend upon the Pacific Lighting Corporation for engineering advice. It has no engineering staff. The service they render is business and political. By political I mean the policy and general management affecting our business in the broad sense of the term. Without going through the correspondence and picking out certain instances, I can't mention specific

services rendered. The first particular advice which I sought was in respect to the counsel which we should employ to defend our franchise suit. The franchise suit is against our electric business, but if we should lose our electric franchise our gas business would suffer untold damage, increasing cost of operation very substantially. Pacific Lighting Corporation has rendered no particular service in connection with financing since the fee was first paid. The agreement is not intended to include financial services. Prior to June 1, 1929, when the agreement took effect, I sought advice from the Pacific Lighting Corporation in matters of importance.

While we have received assistance from the Pacific Lighting Corporation prior to the agreement for payment of fee, I believe they should have been paid for the service long before the arrangement for compensation was made.

Among the reductions in personnel so effected have been: We have abolished one position as vice-president; when the former secretary resigned his assistant was made secretary and the position of assistant-secretary combined with that of the auditor, the duties of assistant secretary being [fol. 563] merely to act in emergencies; eliminated the offices of comptroller, and of chairman of the Board of Directors; combined the offices of president and general manager; and abolished the position of gas engineer. The aggregate saving in salaries from these changes was $4,406 a month, nearly half of the Pacific Lighting fee.

Upon the basis of information from our experts that the supply of natural gas in the Los Angeles Basin is rapidly diminishing, we are now going to more distant fields for supplies of natural gas, and the farther we go the greater is the danger of pipe line failure due to wash-outs and other hazards. As our business increases, the greater is our need for the safeguard of our manufacturing plant in case anything should happen to the pipe lines.

When the plant was completed in 1924 there was a good supply of natural gas, but we knew nothing as to the future. The natural gas business is uncertain and you can never tell what tomorrow is going to bring forth.

When we built our manufacturing plants we were getting all the natural gas we could get from every source, and our well defined idea in expending that money and building

our plant was to supply our business and safeguard against future shortages.

The Southern Counties Gas Company, which supplies approximately 140,000 consumers in Ventura, Santa Barbara, Los Angeles and Orange Counties, has no stand-by plant, but are able to operate without one because they have a contract with Los Angeles Gas and Electric Corporation to supply stand-by service, which contract is on file with the Railroad Commission.

[fol. 564] W. E. HOUGHTON was called as a witness on behalf of Los Angeles Gas and Electric Corporation and, having been duly sworn, testified as follows:

I am Vice-President and Treasurer of Los Angeles Gas and Electric Corporation; I have been connected with the Company for about 31 years; for the first 7 years I occupied a subordinate clerical position; the next 11 years I was auditor, and the following 9 years I was Controller; for the past 4 years I have held my present position; while auditor I had direct supervision of the books of account of the Company, and while Controller and in my present position I have had and have general supervision over accounting matters. In my present position I have general supervision over the general finance of the Company.

Thereupon the Company offered and there was admitted in evidence its Exhibit No. 37, which is in the following form:

[fol. 565] EXHIBIT 37

Weighted Average Out of Pocket Cost of Money from 1909 to 1930

All amounts reduced to equivalent for one year in order to give proper effect to the time element and arrive at true average cost.

	Net proceeds	Cost of money	Rate
Bonds—All issues involved in Corporation's financing from Aug. 1, 1909 to June 1, 1930, reduced to the equivalent for one year	$398,046,244	$25,474,960	6.40%
Preferred Stock—All figures reduced to the equivalent for one year (period involved being from 1921, when sales commenced, to 1930)	113,899,467	7,696,938	6.76%
Common Stock—Similarly treated for the period from Aug. 1, 1909 to June 1, 1930, and based upon an 8½% cost of such money	235,690,000	20,033,650	8.50%
Totals	$747,635,711	$53,205,548	
Weighted average rate			7.12%

[fol. 566] Weighted Average Cost of Bond Money from Aug. 1, 1909, to June 1, 1930

	Issue	Net proceeds	Years out-standing	Equivalent for one year	Cost of the money	
					Per year	Total period
1	L. A. Lighting Co.	$941,640	14.67	$13,813,859	$47,294	$693,803
2	The L. A. Electric Co.	480,795	17.42	8,375,449	24,224	421,982
3	L. A. Gas & Elec. Co.	886,994	20.83	18,476,085	46,503	968,657
	Corporation:					
4	First & Refunding	4,577,515	18.90	86,518,820	255,888	4,826,211
5	Gen. Mort. & Coll. Tr.	937,809	4.	3,751,236	85,548	342,192
	General & Refunding:					
6	A	2,348,165	5.	11,740,825	205,367	1,026,835
7	B	3,247,320	6.	19,483,920	313,363	1,880,178
8	C	1,416,128	5.75	8,142,736	131,326	755,125
9	D	1,855,268	8.25	15,305,961	120,362	992,987
10	E	4,598,375	8.	36,787,000	291,018	2,328,144
11		461	2.94	1,355	40	118
12	F	3,580,416	7.25	25,958,016	220,924	1,601,699
13	G	3,790,566	6.75	25,586,321	251,321	1,696,417
14	H	7,131,439	6.42	45,783,838	475,465	3,052,485
15		5,563,605	5.67	31,545,640	347,456	1,970,076
16	I	2,840,614	5.	14,203,070	166,938	834,690
17		1,795,546	1.	1,795,546	109,432	109,432
18	First & General	9,469,713	3.25	30,776,567	515,371	1,674,956
	Totals	$55,462,369	.....	$398,046,244	.....	$25,175,987
	Add Bondholders' tax and Trustees' Annual fees					298,973
	Grand Total					$25,474,960

$25,474,960 + $398,046,244 = 6.40% weighted average cost of the money.

(Supporting details appear on two following pages.)

[fol. 567]

Cost of Bond Money from Commencement of Present Corporation's Business on Aug. 1, 1909, Down to June 1, 1930 (Including Assumed Bonds of Predecessor Companies for Period Effective)

Issue No.	Amount sold	Date of Sale	Date of Mat.	Net proceeds (par less dis. & exp.)	Annual cost of the money: Interest Rate	Interest Amount	Pro rata dis. & exp. (c)	Pro rata red. prem. (c)	Total	Date of red.	Years outstanding: To redemption	To date if still out
1.....	$944,000	4/99	4/24	$941,640	5	$47,200	$94	$.....	$47,294	4/24	(a) 14.67	.....
2.....	482,000	12/02	1/28	480,795	5	24,100	50	74	24,224	1/27	(a) 17.42	.....
3.....	912,000	(b)	7/34	886,994	5	45,600	903	.....	46,503	....	.....	(a) 20.83
4.....	4,891,000	(b)	9/39	4,577,515	5	244,550	11,338	.....	255,888	....	.....	18.90
5.....	1,000,000	4/20	4/24	937,809	7	70,000	15,548	.....	85,548	4/24	4	.....
6.....	2,500,000	3/21	3/26	2,348,165	7	175,000	30,367	.....	205,367	3/26	5	.....
7.....	3,500,000	6/21	6/31	3,247,320	7	245,000	42,113	26,250	313,363	6/27	6	.....
8.....	1,500,000	9/21	6/31	1,416,128	7	105,000	14,587	11,739	131,326	6/27	5.75	.....
9.....	1,937,500	3/22	3/42	1,855,268	6	116,250	4,112	.....	120,362	....	.....	8.25
10.....	4,999,500	6/22	6/47	4,598,375	5½	274,973	16,045	.....	291,018	....	.....	8
11.....	500	6/22	6/47	461	5½	27	13	.....	40	5/25	2.94	.....
12.....	3,809,000	3/23	3/43	3,580,416	5½	209,495	11,429	.....	220,924	....	.....	7.25
13.....	4,000,000	9/23	3/42	3,790,566	6	240,000	11,321	.....	251,321	....	.....	6.75
14.....	7,545,000	1/24	3/42	7,131,439	6	452,700	22,765	.....	475,465	....	.....	6.42
15.....	6,000,000	11/24	10/49	5,563,605	5½	330,000	17,456	.....	347,456	....	.....	5.67
16.....	2,952,000	6/25	10/49	2,840,614	5½	162,360	4,578	.....	166,938	....	.....	5
17.....	1,895,500	2/26	10/49	1,795,546	5½	104,253	5,179	.....	109,432	2/27	1	.....
18.....	10,000,000	2/27	9/61	9,469,713	5	500,000	15,371	.....	515,371	....	.....	3.25
	58,868,000			55,462,369		3,346,508	223,269	38,063	3,607,840			

(a) Form August 1, 1909.
(b) Sold in various amounts at various dates.
(c) See following page for derivation of these figures.

[fol. 568]

Details of Discount and Expense of Sales and Redemption Premium on Bond Issues Shown on Preceding Page

	Issue	Discount and expense of sale: Discount Rate	Discount Amount	Expense	Total (a)	Redemption premium (b)	Amortization period, years
1	L. A. Lighting Co.	....	.....	$2,360	$2,360	.....	25
2	The L. A. Elect. Co.	....	.....	1,205	1,205	$1,788	24
3	L. A. Gas & Elec. Co.	(c)	$24,050	956	25,006	.....	(c)
	Corporation:						
4	First & Refunding	(c)	303,459	10,026	313,485	.....	(c)
5	Gen. Mort. & Coll. Tr.	5	50,000	12,191	62,191	.....	4
	General & Refunding:						
6	A	5½	137,500	14,335	151,835	.....	5
7	B	7	245,000	7,680	252,680	157,500	6
8	C	5¼	78,750	5,122	83,872	67,500	5.75
9	D	4	76,000	5,482	82,232	.....	20
10	E	2	750				
		7-3/4	387,461	13,664	401,125	.....	25
11		7-3/4	39	Cr. 1	38	.....	2.94
12	F	5-3/4	219,018	9,566	228,584	.....	20
13	G	5	200,000	9,434	209,434	.....	18.50
14	H	5¼	396,113	17,448	413,561	.....	18.17
15	I	7	420,000	16,395	436,395	.....	25
16		3½	103,320	8,066	111,386	.....	24.33
17		5	(d)	5,179	5,179	.....	1
18	First & General	5	500,000	30,287	530,287	.....	34.50

(a) Amounts in this column divided by amortization period shown in last column at right, produce the annual pro rata discount and expense figures shown on preceding page.

(b) Amounts in this column divided by amortization period shown in last column at right, produce the annual pro rata redemption premium figures shown on preceding page.

(c) Various rates and amortization periods.

(d) Discount of sale was cancelled by redemption discount.

[fol. 569]

Weighted Average Cost of Preferred Stock Money 1921 to 1930

Year	Shares sold	Net proceeds	Years outstanding	Equivalent for one year	Cost of the money	
					Per year	Total period
1921	24,498	$2,082,330	9	$18,740,970	$146,988	$1,322,892
1922	44,246	3,855,580	8	30,844,640	265,476	2,123,808
1923	8,138	750,167½	7	5,321,172½	48,828	341,796
1924	65,975	5,944,845	6	35,669,070	395,850	2,375,100
1925	50,050	4,552,096	5	22,760,480	300,300	1,501,500
1926	496	53,564	4	214,256	2,976	11,904
1927	578	59,503	3	178,509	3,468	10,404
1928	766	82,078	2	164,156	4,596	9,192
1929*	57	6,214	1	6,214	342	342
Total	194,804	$17,396,377½		$113,899,467½	$1,168,824	$7,696,938

$7,696,938 × $113,899,467½ = 6.76% weighted average cost of the money.

* Incl. first three months 1930.

[fol. 570]

Weighted Average Amount of Common Stock Outstanding

From August 1, 1909, to June 1, 1930

Par value	Date issued	Years outstanding to June 1, 1930	Equivalent for one year
$7,250,000	Aug. 1, 1909	20.83	$151,017,500
2,750,000	Mar. 20, 1912	18.19	50,022,500
2,500,000	July 26, 1924	5.85	14,625,000
1,500,000	Sept. 30, 1926	3.67	5,505,000
6,000,000	Dec. 31, 1927	2.42	14,520,000
$20,000,000			$235,690,000

$235,690,000 × 20.83 year period = $11,314,930 weighted average amount outstanding.

[fol. 571] Exhibit 37 is made up from the books and records of the Company and shows the weighted average out-of-pocket cost of money to the Company from August 1, 1909, the formation of the present corporation, to June 1, 1930; the exact time that each issue of bonds or stock was outstanding was computed and reduced to the equivalent of one year; the cost of money was treated in the same way, and the cost shown, 6.40 per cent for bond money and 6.76 per cent for preferred stock money, is so derived. In computing cost of money I have taken the net amount received by the Company, less issuance expense, and not the amount paid by the public for securities. The cost of 8½ per cent for common stock money is taken from an exhibit to be presented by Mr. Sinsheimer. A different treatment of common stock money was made necessary because the Company has never sold its common stock to the public, as have other utilities, and all of the common stock has been issued in large blocks to one stockholder and has never been listed on the market. However, conditions are generally similar to those of Pacific Gas and Electric Company and Southern California Edison Company, and Mr. Fankhauser, a witness for the Commission, at an earlier hearing pointed out the cost of common stock financing of those companies as indicating what would probably be the cost of such financing by this Company. The weighted average cost of all money is 7.12 per cent. In determining the cost of money depreciation reserves have not been included for the reason that on a final analysis depreciation reserves are simply a return of that portion of invested capital and as such partakes of the characteristics of the [fol. 572] invested capital. The book credit of an arbitrary rate of interest on the depreciation reserve is no indication that that rate of interest has anything to do with the cost of money involved.

Cross-examination:

The bonds of Los Angeles Lighting Company (a predecessor company), shown in Exhibit 37, were redeemed in 1924. The land owned by that Company is still in use. While much of the depreciable property has probably been retired, much of it is still in existence and in use. Some of the properties now owned by Los Angeles Gas and Electric Corporation date even prior to the Los Angeles Lighting Company, which was formed by taking over 3 prior companies. In the preparation of the exhibit I took into consideration only the issues from the formation of the present Los Angeles Gas and Electric Corporation, which commenced operations August 1, 1909.

[fol. 573] VICTOR H. ROSSETTI was called as a witness on behalf of Los Angeles Gas and Electric Corporation and, having been duly sworn, testified as follows:

I am and for 19 years have been a resident of Los Angeles; my occupation is that of banker, and I have been engaged therein for 38 years, occupying all positions from office boy to executive vice-president with Wells Fargo Bank and Union Trust Company of San Francisco, and for approximately 17 years with Farmers and Merchants National Bank in Los Angeles; I am and for 19 years have been familiar with financial conditions in Los Angeles and vicinity.

During that period Los Angeles has been in somewhat of a development stage for the entire time and reflects an abnormal, and so far as my knowledge goes, unprecedented growth. Older communities such as New York, Chicago, Boston and even San Francisco, represent a more stable, slow and economic financial development. This development period is still in progress and in my opinion will continue for a long time. The rapid development has created a marked demand for money during my entire experience in Los Angeles, which has enhanced the cost of money materially. Frequently it is impossible to conduct financing locally, but funds have to be secured from other sections.

The average effective rate of interest on first mortgage real estate loans in Los Angeles ranges from life insurance loans at an effective rate of about 6 per cent to building

and loan association loans at nearly 9 per cent. I am familiar with real estate bond issues where the effective [fol. 574] rate is nearly 8 per cent, which I would consider typical of real estate bond issues as of the present time.

Considering the risks and uncertainties attendant upon the operation of Los Angeles Gas and Electric Corporation gas properties to be: the possibility of interruption of natural gas supply, severe fluctuation between summer and winter demand, possibilities of business depression generally in the community, competition with coal, oil and electricity, possibility of municipal competition and possible future increased cost of natural gas, the necessity of having to finance capital additions and betterments regardless of the condition of the money market, hazards of fire and earthquake, considering also protections which exist in an industry of that character from the advent of new private competitors, I am of the opinion that the comparable return to capital employed in other business undertakings in this territory attended by corresponding risks and uncertainties is from 8 per cent upwards, and that a minimum fair return would be from 8½ to 9 per cent.

I believe that the trend of cost of money in Los Angeles and vicinity for enterprises of similar character is probably more or less stationary, with some increase in the cost of stock financing.

In my opinion, the Company, when operated properly, should retain a substantial part of its earnings and not pay them all out as dividends. It would be poor business judgment not to set up proper surplus, and if a company paid out all its earnings in dividends it would then minimize its credit standing and borrowing capacity, thereby substantially increasing the cost of funds which it must obtain.

[fol. 575] Cross-examination:

While to an extent capital may be attracted to Los Angeles from other territory, and while in the raising of as much money as would be required to finance this Company as a whole, financing might be on a national scale, nevertheless there are many instances where eastern capital cannot be attracted to western projects of a character as favorable as that of Los Angeles Gas and Electric Corporation.

I do not know at what price the preferred stock of the Company is now selling. I don't know what the Company

has had to pay for selling its bonds. I do not know what dividends it is paying on its common stock. I would say that I would consider a public utility stock, irrespective of the return today, a poor purchase.

Irrespective of rate of return, I would not advise the stock of Los Angeles Gas and Electric Corporation as a good investment at this time, as I believe the utilities will show losses due to minimized earnings as a result of decline in business volume and general disturbance of the economic structure. This is true of general business conditions and results from overproduction and over-extended credit and other economic abuses.

The figures I mention respecting insurance company loans relate to large loans which involve yearly amortization of 10 per cent of the amount each year. The cost of money in New York is less than in Los Angeles. For instance, the Federal Reserve Bank's rediscount rate for the same class of paper is 2½ per cent in New York and 4 per cent in [fol. 576] Los Angeles. We have no trouble in placing all the mortgage loan money that we want in our trust department at 10 per cent.

A utility should receive as great a return as other similar enterprises because the process of regulation frequently results in experiencing a marked reduction of earnings in poor times. If a monopoly exists, it should be given consideration, perhaps reducing the return about one-half of one per cent.

In my testimony respecting a proper rate of return, whether I use the expressions investment, capital structure or present value, I base my opinions on the return which should be enjoyed upon the present fair value of the property. While this Company has a monopoly in the sense that it has no competitors in the distribution of gas, it is subject to competition from oil and electricity. Present economic conditions resulting from previous economic mistakes tend to lessen price levels, but in my opinion this is temporary in nature.

[fol. 577] PAUL A. SINSHEIMER was called as a witness on behalf of Los Angeles Gas and Electric Corporation and, having been duly sworn, testified as follows:

I reside in San Francisco, California, and my occupation is that of investment banker; I was educated at the University of California and was engaged in financial jour-

nalism in San Francisco from 1907 to 1912; from 1912 to 1917 I was financial expert for the California Railroad Commission; I had charge of the examination of all utilities coming before the Commission in respect of their financial matters; in 1917 I became vice-president and assistant to the president of the Union Trust Company, San Francisco, and was engaged in various branches of banking work, including loans, administration of all departments of the bank and the underwriting of securties; in 1921 I became vice-president of Mercantile Trust Company and was a vice-president and later a director of that company and its successor, American Trust Company; I was also managing director and vice-president of the securities department thereof, and dealt particularly with the underwriting of securities, analysis of corporations, purchase and sale of their securities, and general investment business; I have had experience in the underwriting of public utility and other corporations securities; I was a lecturer at the University of California in public utility finance from 1913 to 1915; I have also acted as arbitrator and chairman of arbitration boards in some 8 matters involving wage disputes on railroads and was a member of the State Welfare Commission of California for 2 years from 1922.

Thereupon the Los Angeles Gas and Electric Corpora- [fol. 578] tion offered and there was admitted in evidence its Exhibit No. 39, which is in the following form:

[fol. 579]

EXHIBIT 39

Southern California Edison Company

Common Stock

	Quotations		Dividends	Rites	Yield %
	High	Low			
1929	91 1/2	45 1/4	$2	$6.65–$2.02	8.89–9.45
1928	55 3/4	43 3/4	2	3.07– 1.87	8.86–9.10
1927	45 1/8	31 5/8	2	2.00– .60	8.39–9.10
1926	32	28 3/4	2		6.25–6.95
1925	146 3/4	102	8		5.45–8.42
1924	104 3/8	95	8		7.66–8.42
1923	106	101	8		7.55–7.92
1922	108 3/4	95 1/2	8		7.36–8.38
1921	98	86	8		8.16–9.30
1920	90 1/2	80	7		7.73–8.75
1919	91	82	7		7.69–8.54
1918	83 1/2	73	7		8.38–9.59
1917	89	86	7		7.87–8.14

Pacific Gas & Electric Co.

Common Stock

	Quotations					
	High	Low	Dividend	Stock dividend	Rites	Yield %
1929	98 3/4	42	$2.00	.....	$3.40–$18.90	12.86–21.33
1928	55 1/2	43 7/8	2.00	.....	3.00– 1.90	8.86– 9.01
1927	49 1/2	31 1/4	3.50	.....	2.45– .60	8.38– 8.99
1926	134	118	8.00	.....	3.40– 1.19	8.30– 8.50
1925	136 7/8	102	8.00	.....	.....	5.85– 7.84
1924	105	90 5/8	8.00	.....	.....	7.62– 8.8
1923	94 3/4	74 1/2	6.00	2%	.....	8.33–10.59
1922	89 1/2	63	5.00	2%	.....	7.59– 9.53
1921	68	46 1/2	5.00	.....	.....	7.35–10.75
1920	61	41 7/8	5.00	.....	.....	8.20–11.94
1919	72 1/4	44 7/8	*3.75	.....	.....	.....
1918	45	28 3/4	.....	.....	.....	.....
1917	69	30 3/4	5.00	.....	.....	7.25–16.26
1916	67 1/4	55 3/4	*3.75	.....	.....	.....
1915	60	41	.....	6%	.....	.....
1914	45	34 1/2	.....	.....	.....	.....
	Sales					
1913 (Oct. 21)	36 1/2	.....	.....	.....	.....	.....
1913 (July 15)	43	.....	.....	.....	.....	.....
1913 (April 15)	58 1/4	.....	.....	.....	.....	.....
1913 (Jan. 14)	61 3/4	.....	.....	.....	.....	8.58
1912 (Oct. 15)	64 7/8	.....	5.00	.....	.....	7.71
1912 (July 15)	61	.....	.....	.....	.....	8.20
1912 (Apr. 15)	66 1/2	.....	.....	.....	.....	7.52
1912 (Jan. 15)	54	.....	.....	.....	.....	9.26
1911 (Oct. 18)	69	.....	.....	50%	.....	.....
1911 (June 27)	64	.....	.....	.....	.....	.....

* At 5% annual rate.

	Quotations			Stock dividend	Rites	Yield %
	High	Low	Dividend			
1911 (Apr. 13)	63 3/4	.....	.....	.....	.....	.....
1911 (Jan. 16)	66 1/2	.....	.....	.....	.....	.....
1910 (Oct. 15)	65	.....	.....	.....	.....	.....
1910 (July 15)	54 3/4	.....	.....	.....	.....	.....
1910 (Apr. 18)	57 1/2	.....	.....	.....	.....	.....
1910 (Jan. 18)	54 3/4	.....	.....	.....	.....	.....
1909 (Oct. 15)	57 1/4	.....	.....	.....	.....	.....
1909 (July 14)	44	.....	.....	.....	.....	.....
1909 (May 13)	44	.....	.....	.....	.....	.....
1909 (Jan. 18)	20	.....	.....	.....	.....	.....

* At 5% annual rate.

The above data for the years 1929 to 1914 furnished by Standard Statistics Co.; for the years 1913 to 1909 the figures were supplied by J. Barth & Co. and Sutro & Co., brokerage houses, San Francisco.

[fol. 581] There are approximately $81,000,000 in bonds, preferred stock and common stock of the Company now outstanding. Of this amount $44,000,000 (approximately) was received from bonds at an average rate of 6.[illegible] per cent; $17,000,000 from preferred stock at an average rate of 6.76 per cent; and $20,000,000 from common stock at an average rate of 8.5 per cent. The average rate for all funds is 6.994 per cent. None of the stock issues have refunded any previous issue, but certain bonds now outstanding have been used to refund prior issues. It would be impossible to obtain the true historical cost of funds by considering only the interest rate and the discount on the bonds outstanding on the date of inquiry. It is necessary to consider prior issues which have been refunded, and that is the way these studies have always been made so far as my experience goes, both in and out of the Commission.

I took the depreciation reserve into account as representing the average cost of all capital funds. A separate cost cannot be allocated to the depreciation reserve. It flows from capital funds and its purpose is to replace capital assets and is merely a reflection of the original cost of the capital replaced.

As the common stock has all been sold to Pacific Lighting Corporation and not dealt with on the market, the reasonable cost of funds so derived was estimated by comparison with Pacific Gas and Electric Company, operating in Northern California, and the Southern California Edison Company, operating in Southern California. In my opinion the cost of such money to a company engaged in the gas business would be in excess of the cost of the companies [fol. 582] mentioned, which are engaged largely in the electric business, but these companies were taken as offering practically the only basis of comparison.

The average cost which I have used is less than the percentage developed by Mr. Houghton in Exhibit No. 37, because in that exhibit the actual experience of the Company was considered, whereas I am considering the class of securities presently outstanding. The issue of preferred stock has only been substantial in recent years and tends to lower the rate applicable to the present financial structure under the rate actually experienced by the Company. I have considered all common stock of the Company as issued for cash or its equivalent, upon the assurance of the

officials of the Company that this is so. The so-called stock dividends represent only a funding of capital actually invested in the property.

In order to market common stock of any corporation, public utility or otherwise, the net earnings must substantially exceed dividends paid. Such is the best corporate practice. The higher grade railroads, such as the Santa Fe, Baltimore & Ohio, Chesapeake & Ohio, New York Central, New Haven, Norfolk & Western, Pennsylvania and the Union Pacific, for the past 10 years have disbursed in dividends only approximately 50 per cent of the earnings available. General Motors Corporation has disbursed about 63 per cent of its available earnings as common stock dividends; United States Steel Corporation, 37 per cent; American Telephone and Telegraph Company, 57.8 per cent.

I have ascertained from the Building and Loan Commissioner of the State of California that building and loan [fol. 583] associations of California have outstanding loans of approximately $350,000,000 on real estate security, of which approximately $100,000,000 is in Los Angeles and vicinity. The average rate of interest on such loans is 8.45 per cent, the minimum is 8 per cent, to which should be added commissions and fees, which would substantially increase that rate.

The normal cost of money in Los Angeles is from 1½ to 2 per cent higher than in eastern financial centers and this amount should be added to whatever rate of return is found reasonable in eastern cities in order to reflect the difference in money costs. Typical insurance companies operating in the east and in Los Angeles show a 1.63 per cent greater return in Los Angeles; typical bank stocks show a yield of 1.59 per cent higher in Los Angeles than in New York.

There is an intense competition for funds due to the unusual growth of Los Angeles and the requirements of the real estate and building development, petroleum and motion picture industries. A very substantial part of the investment funds for public utility corporations in California must come from the communities in which they operate.

There is a very definite relation between the return of a utility and the adequacy of its service. A utility which is weak financially cannot give the service which it should

give. If it pays out its entire earnings, it necessarily weakens its position and ability to give service. A return should be at least equal to the actual cost of money invested in the property plus a sufficient margin of safety to permit the Company to obtain funds as needed and comparable to the return which capital could receive from other industries of corresponding risk.

[fol. 584] I have developed historically that the out-of-pocket cost of money in this Company is 6.99 per cent, which, with a minimum margin of safety, would result in a cost of 7.981 per cent; that it has actually cost, with reasonable margin of safety, in excess of 8 per cent to assemble the capital invested in the property of this Company. It would cost in excess of 8, and probably as high as 9 or 10 per cent to assemble the capital required at this time if the properties were now to be reproduced. If, however, the properties were existing and only the capital to be reproduced, the replacement of the capital would entail costs in excess of the historical cost of money; comparable returns on other investments show a yield of 8.20 per cent, without considering the surplus earned by those companies.

Considering all of these factors I am of the opinion that a reasonable return to this Company is not less than 8 per cent on the fair value of its properties used and useful in the public service. The average return on capital invested in other business undertakings attended by corresponding risk and uncertainties at this time in Los Angeles is substantially over 8 per cent.

Cross-examination:

The fact that bonds of the Company are selling on approximately a 5 per cent basis does not show a willingness of the public to invest in securities of the Company irrespective of return from other securities but merely illustrates that the history of the Company and its past financial operations enable its senior securities to command that price. It is no criterion of the cost to reproduce the necessary funds as a whole, as distinguished from a small block of seasoned, senior securities. I would say that the Company should sell a million or two of its bonds at the present time slightly under the ruling price of its present bonds.

It would be impossible to compare prices of Pacific Gas

[fol. 585] and Electric Company or Southern California Edison Company securities without consideration of the stock rights. Without those rights the prices of those stocks would collapse. Prior to the adoption of the policy of issuing rights those stocks sold at prices yielding substantially over 8 per cent. In the earlier history of these companies considerable difficulty was encountered because of the undue proportion of bonds being issued. Later the expedient of issuing preferred stock was devised and it has only been in recent years that common stock financing has been substantial.

I do not consider the stock of Los Angeles Gas and Electric Corporation as attractive an investment as that of either of the companies mentioned. The Pacific Gas and Electric Company is spread over a large section of Northern California, and has many desirable power sites which were largely developed in earlier days at low costs. In addition it has a substantial gas business. The Southern California Edison Company is similarly entrenched in Southern California. I consider investment in electric companies much more desirable than in gas companies. The return on these stocks can be gauged only by considering the rights given for the past several years.

"A. Now, on the stock matter, this stock containing a right can not be figured as of its present value with the right off unless you substantially reduce the capital value of the stock."

"By Mr. Fankhauser:

"Q. I realize that.
"A. I knew you would."

There are definite charges which have to go against the surplus, which should be accumulated over and above dividend requirements on common stock, such as unamortized discount on bonds, any discounts not cared for by depreciation [fol. 586] tion, and any variations in earnings that may be encountered, as well as discounts on preferred stock which have not been figured in the cost of money.

Recalled.

I was present when Mr. Fankhauser testified as to the basis upon which he thought this property could be financed

on a reconstruction basis. In my opinion bonds could not be sold upon the basis outlined by Mr. Fankhauser. A comparison was there made with other bond issues which have received a definite rating in the market because they are legal for savings banks or for other reasons and the prices used by Mr. Fankhauser were based on such comparison. Bonds to be issued for construction would not have such a rating and would be considered of much lower grade. They could not be a legal investment for savings banks, and could not be purchased by savings banks, trust companies, life insurance companies or estates, nor would they be purchased by persons acting as investment counselors administering large aggregations of investment funds. Such bonds for the construction of property could be sold only on a basis from 7 to 8 per cent and then only with some privilege of conversion for stock or other attraction beyond the bare interest rate. Property under construction would have no earnings and it would be necessary during the period of construction to capitalize the interest upon which a return would have to be allowed over and above the construction funds.

I do not think that there is the remotest possibility of stock of such a company being sold on the basis of a return of 7.7 per cent. Mr. Fankhauser's testimony was that stock sold in the first year would have no prospective return for 5 years, then would offer a dividend of but 7.7 per cent. I do not think any stock of such an enterprise [fol. 587] could be sold on such a basis. Upon the basis of a construction project additional inducements would have to be offered and a return of from 12 to 16 per cent would be required, considering such bonuses or privileges as would be required to sell the stock. There would be no reason for anyone purchasing such a stock when during the same period they could purchase the stock of Pacific Gas and Electric Company or Southern California Edison Company, both of which are in my opinion more desirable than that of Los Angeles Gas and Electric Corporation, on a basis yielding 8 per cent and upwards. By purchasing stocks of those companies they would be obtaining a going concern and there would be no reason for anyone taking the chances of waiting 5 years for the dividends on a 7.7 per cent basis when they could buy a better stock of a comparable company to yield them from 8 to 12 per cent. No underwriter

would consider purchasing such stock on the basis outlined by Mr. Fankhauser except with a long-term option to purchase additional stock at a very low price, such as 10 or 15 Dollars per share for $100 par value stock. In my opinion the minimum cost of financing the company during the construction period stated by Mr. Fankhauser would be over 8 per cent, probably as high as 10 per cent.

In determining a reasonable rate of return to a public utility the prices at which such bonds or preferred stocks may be quoted on the market are of no significance. The cost of all funds going into the property, including common stock funds, plus a reasonable margin of safety is the determining factor. In my opinion the fact that a company is earning its bond interest and preferred dividend and a common dividend has no relation to whether it is earning a fair return, and such a company cannot long continue to sell securities unless it is earning a fair return on the fair [fol. 588] value of its properties. Even though a utility were able to pay all of the interest on its bonds and amortize the discount and expense on them within a reasonable time, and pay its preferred stock dividends, meet the requirements of its depreciation reserve, and declare dividends on common stock at the rate of 10 per cent, and still lay aside some money for surplus, I think that over a period of time it would have difficulty in getting money to make extensions, unless that is a return on the fair value of the property. Unless such fair return is received, the investors would eventually refuse to put up additional funds, necessary to maintain the service required in a large and growing community.

Cross-examination:

My opinion as to the cost of reproduction of the capital of the Company is based upon my experience over many years. I am familiar with the costs incurred by other companies, whose success was equally assured and whose prospects of profit were much greater. Many corporations not subject to public regulation are in practice equally assured of a monopoly and their earnings are comparable with those of regulated utilities. An investment in a composite group of representative industries would yield a greater return and would be attended with less risk and uncertainty than an investment in the gas business of Los Angeles today.

[fol. 589] ROUSE SIMMONS was called as a witness on behalf of the Los Angeles Gas and Electric Corporation and, having been duly sworn, testified as follows:

I am a consulting petroleum engineer; I attended Yale University, Sheffield Scientific School and Stanford University, graduating in 1922; I took graduate work at Stanford University until 1923 and worked part time with the Standard Oil Company of California; from 1923 to 1924 I was employed as a geologist and engineer with Mr. Carl H. Beale, a consulting geologist in San Francisco, and with the Marland Oil Company in Los Angeles; since 1925 I have been associated with R. N. Ferguson as a consulting petroleum engineer; in our practice Mr. Ferguson deals with questions of geological exploration, while I handle valuation problems and estimates; I have testified as an expert in several minor cases in the Superior Court of Los Angeles and on three occasions before the Railroad Commission; I am a member of the American Petroleum Institute, the American Association of Petroleum Geologists, California Oil and Gas Association and other professional societies.

I have made a study of the natural gas production in the various producing fields of the Los Angeles Basin and an estimate of the production for the next 2 years through the first quarter of 1932, and in connection therewith have estimated the amount of such gas that will be available to the marketing utilities, treating as available all that remains after field uses, irrespective of pipe line or compressor facilities for transport. The result of my investigation may be summarized as follows:

(a) Since early in 1928 the Santa Fe Springs, Signal [fol. 590] Hill and Seal Beach fields have been the predominating factors in the natural gas production of the Los Angeles Basin. The large yield of these fields has been due entirely to the rapid development under competitive drilling conditions of newly discovered deeper oil zones. At this date (June 20, 1930) these zones have been almost completely developed and a rapid decline in gas yield in the immediate future is inevitable. It is not anticipated that present oil and gas conservation efforts will have more than a temporary effect in postponing this decline.

(b) The remaining fields of the Los Angeles Basin as a group have shown a steady decline for the past 3 years,

which, it is estimated, will continue during the next 2 years of study.

(c) Making allowance for possible gas from the newly discovered Venice field, which it has not been possible to consider in detail, it is estimated that the total amount of gas available from Los Angeles Basin fields will be in January, 1931, 326,000,000 cubic feet per day and in January, 1932, 155,000,000 cubic feet per day.

These figures represent the amount of natural gas which in my opinion will be available irrespective of pipe line or compressor facilities for the requirements for the extraction of gasoline, fuel for oil field and refinery operations and recirculation.

Cross-examination:

My study is confined to the natural gas available from production in the Los Angeles Basin, which is the nearest and most economical available source of supply. Some gas is brought from the Ventura and San Joaquin Valley fields [fol. 591] which has not been studied. While the possible substitution of other fuel for gas for refinery and other field purposes might increase the amount available to some extent, such substitution would only occur in the event the gas became considerably more valuable.

[fol. 592] L. M. SPENCER was called as a witness on behalf of the Los Angeles Gas and Electric Corporation and, having been duly sworn, testified as follows:

I am a geologist and petroleum engineer employed by Southern California Gas Company; I attended Stanford University and graduated in geology in 1921; I have since been continuously employed in that profession with the Caribou and the Record Oil Companies in the Midway-Sunset Oil Field, and with the Southern California Gas Company and the Midway Gas Company in the Los Angeles Basin fields.

At the request of the general manager of the Southern California Gas Company in 1930, I prepared a report on the gas available for market and transportation in the Los

Angeles Basin fields, basing my estimate on the decline of natural gas production, as shown by the records of the fields. As of January, 1930, the available gas is 668,052,000 cubic feet per day, and there is a constant decline for the coming 2 years. In my opinion the amount which will be available in the Los Angeles Basin fields in January, 1931 is 287,385,000 cubic feet per day, and in January, 1932, 132,775,000 cubic feet per day. By "available" I do not mean the quantity which could be purchased by the gas companies, but the total quantity in the field not consumed by field and other such uses irrespective of pipe line or compressor facilities, contracts or anything else. On the basis of my report the Southern California Gas Company is planning extensions and pipe lines intended to bring gas south from the San Joaquin Valley fields.

The substitution of other fuel for natural gas for field purposes is very improbable, particularly as a temporary measure in times of peak demand; possibly if continuous [fol. 593] demand existed and the prices were sufficient, something could be done along that line, but this could happen only if the cost and value in the field were much higher than at present. The peak requirements for gas by consumers of the public utility companies in the Los Angeles Basin in 1930 was 475,000,000 cubic feet in one day. It would be mere speculation to count upon the possibility of additional fields or zones being discovered within the Los Angeles Basin areas.

Cross-examination:

My estimate is based on presently known, producing zones. I know there are deeper sands in the Basin but they have not been developed to a point that I can give any opinion as to their productivity. While the deeper zones so far discovered have produced more gas than the upper zones, I would have to see the performance of any zones to be developed hereafter before I can estimate their production.

On the basis of my investigation, additional pipe lines from the San Joaquin Valley are to be installed, the capacity of which will be 28,000,000 cubic feet. I have given consideration to and treated as available gas that is being preserved through conservation measures.

[fol. 594] Thereupon said proceeding was submitted to the Commission for decision on said evidence and upon briefs filed on behalf of the parties thereto.

Thereafter, on November 24, 1930, the Commission made and filed its Decision and Order No. 23102, which said Decision and Order, with the dissenting opinion of Commissioner Decoto, as a part thereof, is set forth in Exhibit "A" to the Bill of Complaint herein.

Thereafter, and within the time allowed by law, Los Angeles Gas and Electric Corporation filed its Petition for Rehearing in said matter, which said Petition for Rehearing is set forth in Exhibit "B" to the Bill of Complaint herein.

Thereafter, on December 15, 1930, said Railroad Commission of the State of California made and filed its Decision No. 23197 denying a rehearing of Decision No. 23102, which said Decision No. 23197 is set forth in Exhibit "C" to the Bill of Complaint herein.

The affidavits filed on behalf of the respective parties to this cause and received in evidence herein, condensed and reduced to narrative form, are as follows:

[fol. 595] AFFIDAVIT OF H. L. MASSER

The affidavit of H. L. Masser, filed on behalf of plaintiff Los Angeles Gas and Electric Corporation, condensed and reduced to narrative form is as follows:

Affiant stated his education, qualifications and experience substantially as set forth in the condensed statement of his testimony before the Commission, heretofore set forth.

During the past ten years plaintiff has never earned as much as a fair return upon a fair value of its properties used and useful in the public service and it is not now earning a fair return under the rates now in effect. Under the rates prescribed by Decision and Order No. 23102 of the Railroad Commission, set forth in the Bill of Complaint, it would earn far less than a fair return. In support of this statement affiant presents the following summary of actual operating revenues and expenses of plaintiff's gas department for the twelve months' period ending October 31, 1930, which is the latest twelve months' period for which figures are available.

Revenue and expenses are shown as actually realized under existing rates and also revenues which would have resulted had the rates fixed by Decision and Order No. 23102 been in effect for that period.

[fol. 596]

Los Angeles Gas and Electric Corporation Gas Department Revenue, Expenses, and Return for Twelve Months Ended October 31, 1930

Domestic and Commercial Gas Sales of 17,931,820 M.c.f.

Gross Revenue	1 Under present rates	2 Under rates prescribed by Commission's decision and order
From Domestic and Commercial Gas Sales	$14,955,448.57	$13,609,458.25
From Industrial Gas Sales	637,203.58	637,203.58
Miscellaneous Operating Revenue	105,788.19	105,788.19
Total Gross Revenues	$15,698,440.34	$14,352,450.02
Operating Expenses:		
Gas Production Expense	$4,393,859.29	$4,393,859.29
Transmission and Distribution Expense	1,073,866.11	1,073,866.11
Commercial and New Business Expense	992,610.15	992,610.15
General Expense	1,039,323.27	1,039,323.27
Subtotal	$7,499,658.82	$7,499,658.82
Taxes	1,604,334.42	1,352,992.26
Depreciation	1,266,273.68	1,300,000.00
Uncollectible Accounts	177,215.51	162,020.93
Total Operating Charges	$10,547,482.43	$10,314,672.01
Net for Return	$5,150,957.91	$4,037,778.01
Present Fair Value Rate Base as of June 30, 1930	95,767,351.00	95,767,351.00
Rate of Return	5.38%	4.22%
Commission's "Fair Value" (Decision No. 23102)	65,500,000.00	65,500,000.00
Rate of Return	7.86%	6.16%

1. All figures in this column show the actual results of operation for the period indicated.

2. All figures in this column are actual, except that gross revenue has been adjusted to show the reduction to the proposed rates, and the taxes and uncollectibles have been adjusted to the decreased revenue.

[fol. 597] The foregoing table shows in the left-hand column thereof the actual expenses and costs which were incurred in the operation of plaintiff's gas business during the twelve months' period ended October 31, 1930. These are the fair and reasonable expenses that may be expected to be incurred during 1931 and for a reasonable period in the future under the present rates. If the rates prescribed by the Commission in its Decision and Order No. 23102 should become effective, the amount of taxes actually ac-

crued on plaintiff's books during the twelve months' period ended October 31, 1930, in the sum of $1,604,334.42 would, because of the decreased gross and net revenue of plaintiff, be the sum of $1,352,992.26, and likewise uncollectible accounts under the proposed rates would have been reduced from the actual charge of $177,215.51 to $162,020.93. The right-hand column of this table shows the earnings and expenses that would have accrued or been incurred in said twelve months' period ended October 31, 1930, had said rates prescribed in the said Decision and Order been then in effect, and also shows the revenues and operating expenses that would accrue or be incurred during the calendar year 1931, and immediately subsequent years if said rates should be made effective.

The sum of $1,266,273.68, set up in said table as depreciation, is the amount actually set up on plaintiff's books and is the minimum amount reasonably necessary to be set aside out of earnings to meet accruing depreciation to plaintiff's property on a 6% sinking fund basis. If the depreciation were charged on a straight line basis, it would [fol. 598] amount to at least $2,830,000 per annum. In Decision No. 17830, dated December 31, 1926, the Commission allowed plaintiff to set up depreciation of $1,078,000 per annum on a 6% sinking fund basis on a then assumed historical rate base of $54,506,465, and in Decision No. 20448, dated November 13, 1928, it allowed depreciation of $1,092,-092 per annum on a 6% sinking fund basis on a then assumed historical rate base of $58,007,404. The historical rate base as of January 1, 1930, assumed in Commission's Decision No. 23102, dated November 24, 1930, is $60,704,-000, upon which the Commission allows depreciation of but $990,000, which amount is inadequate to fairly represent the accruing charges on a 6% sinking fund basis which should be made to permit of the replacement of plaintiff's property used in the gas business as the same becomes worn out and/or obsolete; that if a depreciated value rate base were used this would necessitate the use of a straight line basis for accruing depreciation; that the annual depreciation charge on a straight line basis, corresponding to the charge on a 6% sinking fund basis, is not less than $2,830,000 per annum; that there have been no changes in conditions since 1928 reducing the reasonable requirements

of plaintiff in respect of the depreciation annuity which should be charged to current operating expenses.

In the territory served by plaintiff the point of saturation in the consumption of gas per meter practically has been reached in the use for cooking, water heating and space heating, as virtually all consumers have equipped their premises with facilities of this character, and no substan- [fol. 599] tial increase of the consumption of gas per meter may be expected from these sources, nor may any substantial increase in consumption per meter be expected (other than due to the normal fluctuations of temperature) due to the development of other or additional uses for natural gas in domestic and commercial service. Further, the population in Los Angeles, like similar communities elsewhere, is tending, in a constantly increasing degree, to reside in apartment houses, which trend has been found by experience of the plaintiff to reduce the per meter consumption of gas. The average consumption per meter during the past eighteen months has declined, which, coupled with the increasing tendency to economize in expenditures, will result during 1931 and 1932 in decreased sales per meter as compared with preceding periods.

Based upon these facts, and affiant's experience in connection with the operation of plaintiff's gas business, it is his opinion that the gross earnings of plaintiff during a reasonable period in the future, under the rates prescribed in the Commission's Decision and Order No. 23102, dated November 24, 1930, will not produce an annual revenue in excess of that which would have been obtained thereunder during the twelve months' period ended October 31, 1930, to wit, the sum of $14,352,450, as shown in the table last herein referred to.

The Railroad Commission in its Decision and Order of November 24, 1930, allowed $1,095,000 for working cash capital and materials and supplies, made up of Materials and Supplies $450,000, Working Cash Capital $645,000. [fol. 600] The actual average amount of materials and supplies possessed and used by plaintiff during the past three years was and is $612,735, and the reasonable requirements of plaintiff in the future will require that it possess and use materials and supplies in at least that amount.

The actual amount of working cash capital possessed and used by plaintiff is $2,333,850, and said amount and all

thereof is required to meet the reasonable requirements of plaintiff for working cash capital and at least that amount will be required during a reasonable period in the future.

The actual requirements of plaintiff for materials and supplies and working cash capital is now, and for a reasonable period in the future will be, not less than $2,946,585 in the aggregate, as compared with the allowance by the Railroad Commission of $1,095,000 in the aggregate.

In Decision No. 17830, dated December 31, 1926, the Railroad Commission allowed for these items the sum of $1,826,000, and in Decision No. 20448, dated November 13, 1928, it allowed for these items the sum of $1,800,000, which amounts were less than its then requirements, the working cash capital being fixed by an arbitrary formula, without reference to the actual amount of working capital then employed. The requirements of plaintiff for materials and supplies and for working cash capital since said decisions have not diminished, but, on the contrary, its requirements for working cash capital have increased substantially. At the time said allowances were made, said allowances were [fol. 601] in fact less than the actual amounts of materials and supplies and working cash capital possessed and used by plaintiff in its gas business, and at said times the extent of plaintiff's properties and business was substantially less than it is at present, and because of the expansion of plaintiff's business and properties, a substantially greater amount of working cash capital is required now and will be required in the year 1931 and ensuing years than was required in 1928 and 1929.

[fol. 602] AFFIDAVIT OF A. J. LUICK

The affidavit of A. J. Luick, filed on behalf of plaintiff Los Angeles Gas and Electric Corporation, condensed and reduced to narrative form is as follows:

Affiant stated his education, qualifications and experience substantially as set forth in the condensed statement of his testimony before the Commission, heretofore set forth.

Affiant has made an inventory and appraisal of the properties of the gas department of Los Angeles Gas and Electric Corporation, which work was commenced in August,

1927, and completed in June, 1930. It is the first and only complete inventory and appraisal of plaintiff's said properties and required a total of 23,774 man-days. The appraisals were made as of January 1, 1930, one on the basis of Reproduction Cost New Less Accrued Depreciation and the other upon the basis of Historical Reproduction Cost.

In preparing the Historical Reproduction Cost appraisal an exhaustive study was made of the Company's books and records to determine the actual cost incurred at the time of construction of plaintiff's properties. The Reproduction Cost New appraisal was based upon data secured from the Company's books and records, upon information from manufacturers of material and equipment of the kind and character used and upon affiant's general knowledge and experience in the construction of properties of this kind. The prices used were average prices prevailing over a [fol. 603] representative period ending January 1, 1930, which prices were on the average not in excess of prices prevailing as of that date. Allowance was made in the appraisal for the purchase of materials in substantial quantities and discounts based on such quantity purchases, lower than the actual prices paid by plaintiff, were included.

In affiant's opinion, the Historical Reproduction Cost of such properties as of January 1, 1930, (including land at its market value as of that date as appraised by Mr. D. F. McGarry) was and will be during a reasonable time in the future not less than $68,561,888 and the Reproduction Cost New, less accrued depreciation as of January 1, 1930, was and the same will be during a reasonable time in the future, not less than $95,767,351.

Affiant has given consideration to the probable trend of prices during a reasonable period in the future as compared to the prices used in his Reproduction Cost New figures, and it is his judgment that the prices used in his appraisal are representative of the prices which will prevail during said future period; that while in his opinion there may be fluctuations in these prices either upward or downward, the general level will prevail at approximately the level of prices used by him.

Based upon (1) the inventory and appraisement of the property made as aforesaid, (2) the examination of said property and the appraisement of its accrued depreciation

(including ascertained functional depreciation), (3) the [fol. 604] fact that the property is organized and is operating efficiently with a skilled personnel and has an attached and going business, affiant is of the opinion that the fair value of plaintiff's properties used and useful in the service of the public was on the average during 1930, and for a reasonable period in the future, will be not less than the sum of $95,767,351.

Affiant further states that it is his judgment the Los Angeles Gas and Electric Corporation is an efficiently operated and well-managed utility, and compares favorably in this respect with other well-managed utility companies in the United States.

Affiant further states that, considering the character of the corporation's property, a reasonable and proper depreciation annuity would be not less than $1,300,000, and that any lower annuity would be insufficient. That if the present value of the plaintiff's property were to be determined by deducting from the Reproduction Cost New accrued depreciation, based upon the use of life tables, the depreciation annuity would be not less than $2,800,000 based on life tables used by the Commission engineers.

Affiant further states that in view of the following conditions in Los Angeles, (a) the trend to apartment houses, (b) the competition with electricity for cooking and space heating, (c) the effect of the construction of buildings upon the heating requirements of the urban community, all having a direct effect in reducing the per meter consumption, [fol. 605] it is his opinion that the sales of gas by plaintiff for domestic and commercial purposes during the ensuing twelve months, or during a reasonable period in the future cannot be anticipated to be greater than the actual sales for the twelve months ended October 31, 1930.

That affiant has examined the schedules of rates prescribed in the Commission's decision and order, and has considered the effect of the application of these rates upon the plaintiff's gross operating revenues and net operating revenues, and that it is his judgment and opinion, that if the proposed rates were made effective, plaintiff's earnings available for a return, after a reasonable amount for depreciation annuity, will not during a reasonable period in the future exceed 4.22% per annum on the fair value of the property used and useful in the service of the public.

[fol. 606] AFFIDAVIT OF V. H. ROSSETTI

The affidavit of V. H. Rossetti, filed on behalf of plaintiff Los Angeles Gas and Electric Corporation, condensed and reduced to narrative form, is as follows:

Affiant is by occupation a banker and has been engaged in banking for the past thirty-eight years and is Executive Vice-President of The Farmers & Merchants National Bank of Los Angeles. He is now, and during the last nineteen years has been, familiar with business and financial conditions in the City of Los Angeles and vicinity. During all of said period Los Angeles and vicinity has been in a development stage and has grown rapidly in population and wealth; that said growth will, in affiant's opinion, continue during the next decade.

The demand for investment funds in Los Angeles has always been in excess of the supply available in that territory and on account of the competition for funds the rates of interest and the rates of return on investments has always exceeded the rates of interest and rates of return on funds invested in similar enterprises in other parts of the United States and in Northern California.

Affiant is familiar with the risks and uncertainties attendant upon the operation of the Los Angeles Gas and Electric Corporation's gas properties.

The average return on capital employed in Los Angeles and vicinity in other business undertakings attended by corresponding risks and uncertainties to that of Los Angeles Gas and Electric Corporation at this time, has [fol. 607] been during the year 1930, and, in affiant's opinion, will be in 1931 and the immediately succeeding years, not less than 8% per annum.

In view of the present economic conditions affiant is of the opinion that such minimum return should be at least 8½%.

[fol. 608] AFFIDAVIT OF PAUL A. SINSHEIMER

The affidavit of Paul A. Sinsheimer, filed on behalf of plaintiff Los Angeles Gas and Electric Corporation, condensed and reduced to narrative form is as follows:

Affiant stated his education, qualifications and experience substantially as set forth in the condensed statement of his testimony before the Commission, heretofore set forth.

That ever since 1907 he has been familiar with financial conditions in the state of California, including financial conditions in Los Angeles and vicinity; that he has, in his various capacities, negotiated the purchase and sale of hundreds of millions of dollars of securities, a large portion of which were securities of public utilities doing business in the state of California.

That he made a careful study during the first six months of 1930 of financial conditions in Los Angeles and vicinity and more particularly as to the return enjoyed upon capital invested in business enterprises in Los Angeles and vicinity.

Affiant has made a study and examination of the finances of Los Angeles Gas and Electric Corporation, and more particularly as to cost of money to that corporation invested by it in its public utility properties; as a result of such investigation and study, affiant has found that the actual cost of capital funds (without margin of safety) to the Los Angeles Gas and Electric Corporation from 1909 to 1929 was 6.994%; and that the fair cost of capital to [fol. 609] said corporation during said period (including therein the minimum surplus earnings necessary to maintain such out-of-pocket cost) was, during said period from 1909 to 1929, not less than 7.981%.

The present annual cost of bond and preferred stock money of plaintiff stated in Decision No. 23102 of the Railroad Commission of the State of California to be 6.17%, is not the actual cost of money to plaintiff, in that it represents only the present interest and dividend charges and amortization of discount (on a sinking fund basis) on such moneys, without regard to costs actually incurred in obtaining such moneys, including the cost of the retirement of previous issues bearing higher interest rates, and the premiums paid in connection with such retirement. Such present annual payments do not measure the cost of money to the plaintiff in that they apply only to senior securities (bonds and preferred stock) seasoned by virtue of plaintiff's established business and earning capacity, and do not include the costs which would have been and would necessarily be incurred in connection with common stock financing necessary to secure such favorable terms on senior issues.

The actual annual out-of-pocket cost of that portion of the money now invested in the public utility properties of plaintiff which was obtained from bonds and preferred stock during the period 1909-1929 is for bonds 6.40% and for preferred stock 6.76%, as compared with the erroneous figure of 6.17% for said bonds and preferred stock stated in said Decision No. 23102.

The actual out-of-pocket cost of all moneys (bonds, pre-
[fol. 610] ferred stock and common stock) invested in the properties of plaintiff during the period 1909-1929 was 6.994%, and with a minimum margin of safety, 7.981%.

Affiant knows the risks and uncertainties attendant upon the operation of the Los Angeles Gas and Electric Corporation's gas properties. The average return on capital employed in other business undertakings attended by corresponding risks and uncertainties to that of Los Angeles Gas and Electric Corporation in Los Angeles and vicinity during the year 1930 was, and, in affiant's opinion, during the year 1931 will be, not less than 8% per annum. Under present conditions, which in affiant's opinion will continue during the year 1931, and probably longer, such minimum return is in excess of 8.20%.

[fol. 611] AFFIDAVIT OF A. G. MOTT

The affidavit of A. G. Mott, filed on behalf of defendant Railroad Commission, condensed and reduced to narrative form, is as follows:

Affiant is, by profession, a civil and electrical engineer and has been engaged in said profession for more than twenty fears; he graduated from the Leland Stanford Jr. University, receiving the degree of A. B. in electrical engineering in 1908 and later took a graduate course of study at said Leland Stanford Jr. University, receiving the degree of "engineer" in electrical engineering in 1909.

In 1906 affiant was employed by the Union Iron Works of San Francisco as a draftsman, preparing the final drawings of the U. S. S. California and the U. S. S. South Dakota then under construction. He was employed by the United Railroads of San Francisco as an electrician engaged in the repair of electrical equipment of street cars

in 1907, and in 1909 as a power house operator. In 1910 he was employed by the Southern Pacific as a draftsman, and from December, 1910, to April, 1914, he was employed by that company in a special course of practical experience and training in railroad operation, which included various kinds of practical work handled by the various departments of a large railroad operating organization.

From May, 1914, to June, 1920, he was employed by Southern Pacific Company as an assistant engineer on its Coast Division, engaged particularly on railroad mainte- [fol. 612] nance, construction and reconstruction, cost estimating and valuation work. During the war affiant had charge of the construction of railroad facilities to serve Camp Fremont Cantonment. From June, 1920, to January, 1921, he was employed by Southern Pacific as assistant engineer in its general office for the purpose of checking additions and betterments and maintenance work to be used as a basis of making appropriations by the executive committee of the board of directors.

From January, 1921, to October, 1923, he was employed by the Commission as assistant engineer in the Transportation Division. From November, 1923, to December, 1926, he was employed by said Commission as transportation engineer in charge, under the general direction of the chief engineer, of all engineering studies relating to transportation matters. From December, 1926, continuously to the present time, he has been employed by said Commission as chief engineer in general charge of all engineering investigations made on behalf of the Commission.

During his employment by said Commission as transportation engineer or as chief engineer, he has had immediate or general charge of numerous engineering investigations involving the operation and/or valuation of numerous utilities, including, Los Angeles Gas and Electric Corporation, Pacific Gas and Electric Company, Southern Sierras Power Company, Southern California Edison Company, Los Angeles Railway Corporation, Pacific Electric Railway Company, Key System Transit Company, California Water [fol. 613] Service Company.

Affiant has been in charge of and has exercised general supervision over the investigations made by the engineering staff of the Commission with respect to the operation,

service and valuation of the properties of the Los Angeles Gas and Electric Corporation for a period extending from 1927 to the present time and he is generally familiar with the scope of operations of that company and with the nature and extent of its properties.

Based upon his general knowledge of the properties of the Company and upon the detailed investigations made by the engineering staff of the Commission under the immediate supervision of its Valuation Engineer, P. E. Dufour, it is his information and belief that the estimated reasonably incurred original cost of the physical properties of said corporation devoted to the production, transmission and/or distribution of gas, as an operating property fully equipped and functioning with its consumers connected to its lines and its business established, was, as of December 31, 1929, not more than $58,210,000, before deducting accrued depreciation; that the estimated cost to reproduce the identical property under the same physical conditions, advantages and difficulties that actually did obtain in the construction of said property, but giving full effect to the prices of labor and material as they existed on December 31, 1929, and immediately prior thereto, was not more than $63,710,000, before deducting accrued depreciation; that the same property reproduced in the same manner but at prices as they existed on June 15, 1930, was not more than $63,030,000, before deducting accrued de-
[fol. 614] preciation; and that the estimated cost of reproducing the identical property, in the same manner but at prices as of December 15, 1930, was not more than $59,820,000.

Based upon investigations made by the engineering staff of the Commission under his direction, particularly by Assistant Engineer Roy A. Wehe, it is his information and belief that said physical properties of the Company devoted to gas service have suffered a lessening of value due to actual physical and functional deterioration and depreciation as of December 31, 1929, to the extent of a sum of not less than $7,650,000.

Based upon engineering studies made by the staff of the Commission, particularly its Gas and Electric Engineer C. C. Brown, it is his information and belief that properties of the Company devoted to gas service, have suf-

fered a lessening of value due to inadequacy, obsolescence and changes in the art to an extent of not less than $5,100,000.

Based upon studies of the engineering staff of the Commission, it is his information and belief that additions, betterments and improvements to the extent of $1,540,000 have been or reasonably should have been made to the gas properties of the Company in 1930.

Based upon engineering investigations of the staff of the Commission and his general knowledge of the properties of the Company, it is his information and belief that the fair value of the properties of said corporation devoted to the production, transmission and/or distribution of gas, [fol. 615] as an operating property fully equipped and functioning with its consumers connected to its lines and its business established was, for rate making purposes, on the average during 1930, not in excess of $57,000,000.

In all of the elements of value above stated, including the original cost estimate, operative lands have been included at their full fair market value as of December 31, 1929, which is the sum of approximately $3,500,000, as testified to by witness E. P. McAuliffe before the Commission. This figure is approximately $1,900,000 in excess of the actual original cost of said lands to said corporation, according to investigations made by said E. P. McAuliffe. These land figures exclude $192,203 for non-operative and referred to in the Commission's decision at the end of Table III.

He has read the affidavit of A. J. Luick and heard his testimony offered in Case 2747 before the Commission in respect to the claim that the fair value of plaintiff's property, used and useful, in the service of the public with natural gas on the average during 1930 was not less than the sum of $95,767,351, based upon a theoretical and hypothetical program of construction of a property similar to the properties of plaintiff which might be constructed under certain assumed conditions over a period of six years, beginning January 1, 1930.

It is his information and belief that the actual property of plaintiff would not have been constructed under such a theoretical and hypothetical program and that the esti- [fol. 616] mated cost of so reproducing a property under assumed and hypothetical conditions does not show the cost

of reproducing the actual property of plaintiff as it existed as of December 31, 1929, or any other date.

It is his information and belief that the estimated cost of reproducing said property of plaintiff should be based upon the actual facts and conditions that surrounded the construction of the identical property which it is sought to be valued, pricing the component parts thereof at price levels prevailing for labor and material as they existed on the date on which it is sought to determine the estimated cost of reproduction and over a reasonable period immediately prior and subsequent thereto.

It is his information and belief that his estimates of cost to reproduce, stated herein, are, in fact, based upon the reproduction of the actual and identical property of the plaintiff herein under consideration in the same manner and under the same conditions that such property was actually originally produced, but at price levels for labor and material as they existed at the respective times for which the estimates of cost to reproduce are stated to have been made.

Affiant states that he has been and is generally familiar with the decisions of the Commission in the fixing of rates of public utilities, since 1926, and that in these decisions the Commission usually has fixed rates on a basis which it was estimated would yield a rate of return varying from seven to eight per cent on the reasonable historical cost [fol. 617] of the property, including lands at current fair market value for utilities operating under conditions comparable to the Los Angeles Gas and Electric Corporation.

During said period since 1926 such utilities have greatly increased the volume of their business and have invested large sums of money in plant and equipment for the purpose of maintaining or improving the service rendered and affiant has been unable to observe wherein the rates so fixed by the said Commission have in any way prevented sufficient sums of capital to flow into the enterprises of such utilities, necessary to maintain adequate, reasonable and proper service by said utilities during this period.

[fol. 618] AFFIDAVIT OF P. E. DUFOUR

The affidavit of P. E. Dufour, filed on behalf of defendant Railroad Commission, condensed and reduced to narrative form is as follows:

Affiant stated his education, qualifications and experience substantially as set forth in the condensed statement of his testimony before the Commission, heretofore set forth.

The actual historical cost of plaintiff's property used and useful in the performance of its gas service, as entered in the books of said company with operative land values as of January 1, 1930, is $58,687,186; said figure is made up of the following items:

Table I

Intangible Capital:		
Organization	$415,734.71	
Franchises	13,391.23	
Total Intangible Capital		$429,125.94
Tangible Capital:		
Lands		3,500,888.00
Production		19,215,650.10
Distribution		32,205,911.59
General Capital		3,335,611.09
		$58,687,186.72

He is familiar with the annual reports filed with the California Railroad Commission by plaintiff company and familiar with the books and records of said company reflecting the historical cost of plaintiff's property; said records show that during the period from 1913 to 1929, inclusive, plaintiff [fol. 619] charged to capital accounts 5.98 per cent of construction costs to cover general overhead expenses incurred; said general overhead construction costs covered the items of engineering and superintendence costs, law expenses, injuries and damages, taxes and miscellaneous construction expenses.

He is familiar with the Uniform Classification of Accounts for Gas Corporations prescribed by the Railroad Commission of the State of California; that during the period from January 1, 1913, to December 31, 1923, the general instruc-

tions applicable to the classification of fixed capital accounts of said Uniform Classification of Accounts provided that "the term 'cost' as used in the texts for fixed capital accounts means the original cost to the corporation. It includes not only the costs of labor, materials and supplies directly employed or consumed in the construction and installation of property classed as fixed capital, but also the cost of preliminary plans and surveys and such portion of the expenses for engineering and plant supervision and general expenses as may be chargeable to the fixed capital accounts under an equitable plan for the apportionment of such expenses." The said Uniform Classification of Accounts during said period were applicable to plaintiff corporation. On and after January 1, 1924, the Uniform System of Accounts for Gas Corporations prescribed by the Railroad Commission of California specifically directed the distribution of overhead construction costs in fixed capital accounts in the following language: "So far as possible overhead construction costs, such as engineering costs, law expenses, injuries and dam- [fol. 620] ages, taxes and interest during construction, shall be assigned or apportioned to particular accounts, to the end that each item of property shall bear its proper share of such cost and that the entire cost of the item of property, both direct and overhead, may be deducted from the fixed capital accounts at the time the item of property is retired."

He has estimated the historical reproduction cost of plaintiff's gas properties used and useful in the public service, including land at present value, to have been $58,399,353 as of December 31, 1929, and that the details of said figure are set forth in Table II, infra; general overhead expenses have been included on a six per cent basis representing approximately the average amount charged by the company on its books from 1913 to 1929, inclusive. Historical reproduction cost as here used is defined as the fair market value of the company's lands as of the date of the valuations, and for all other properties, either the actual cost, if reasonable and ascertainable, as of the time of acquisition or construction by the company, or the estimated amount of money reasonably required to reproduce the various units of property existing on the date of valuation in the same condition as when they were acquired or installed by the company, at price levels and under conditions effective as of the respective dates of acquisition or installation.

[fol. 621] Table II

Intangible Capital:	
Organization	$365,529
Franchises	12,406
Total Intangible	377,935
Land	3,693,191
Total Land and Intangibles	4,071,126
Tangible Capital:	
Production	14,304,373
Distribution	34,126,513
General	2,822,158
Total Capital	55,324,170
Intangibles and Land	4,071,126
Total Capital less Intangibles and Land	51,253,044
Overheads	3,075,183
Total Capital including overheads	$58,399,353

The current price level cost of plaintiff's gas properties used and useful in the public service, applying prices prevailing June 15, 1930, including land at present market value as estimated by witness E. P. McAuliffe and excluding the hereinafter described difficulty factor of $615,007, is $63,212,221, undepreciated; said figure represents the cost of the properties as they existed December 31, 1929, using the unit costs and prices prevailing on June 15, 1930, and applying overhead charges of six per cent, the average amount actually charged by the company on its books from 1913 to 1929, inclusive (Land as above noted, being included at its market value as of December 31, 1929); the said figure of $63,212,221 is also obtainable by applying to the actual historical cost of the properties as of December 31, 1929, as re-
[fol. 622] flected by the books of the company, price factors converting the said historical cost to price levels prevailing on June 15, 1930. Current price level cost represents the cost of the properties as they existed on December 31, 1929, assuming that the properties were put together historically,

but that during the entire life and delevopment of the properties prices and unit costs had been continuously at the level prevailing on June 15, 1930.

The difficulty factor above mentioned represents affiant's estimate of the increased labor cost that would be experienced in constructing the property under present physical conditions over those originally encountered, such as increased traffic difficulties and increased subterranean obstructions. This increased labor cost is an incident of theoretical construction under an assumed construction period, and is properly to be excluded in arriving at a current price level cost as above defined, inasmuch as the said difficulties were not in fact experienced historically.

The current price level cost of plaintiff's gas properties, less accrued depreciation computed on the six per cent sinking fund basis, is $55,437,354 as of December 31, 1929. The said cost less accrued depreciation computed on the straight line basis is $47,866,067 as of December 31, 1929.

Affiant has kept in close touch with the prevailing labor and material costs; he maintains as part of the Valuation Division a Cost Bureau which spends its entire time in collecting material and labor costs from analysis of the actual pur- [fol. 623] chases made by representative public utility corporations within the State, and from quotations obtained from vendors; the present trend of material and labor cost is downward; due to the present acute unemployment situation the wages paid the class of labor required for this type of construction *is* now lower and due to the large number of applicants for employment from which capable men may be selected the efficiency of labor is higher, tending to materially decrease the labor costs; he has estimated that the current price level cost of plaintiff's gas properties used and useful in the public service applying prices prevailing December 15, 1930, including land market value as of December 31, 1929, and excluding difficulty factor is $60,009,099, undepreciated; said figure would represent the cost of the properties as they existed December 31, 1929, if the unit costs and prices prevailing on December 15, 1930, were used, applying overhead charges of six per cent, the average amount actually charged by the company on its books from 1913 to 1929, inclusive, and including land at market value as of December 31, 1929; that the current price level costs of $60,009,099 as

of December 15, 1930, is only $1,321,912 or 2.25 per cent higher than the actual historical cost.

The current price level cost as of December 15, 1930, of plaintiff's gas properties less accrued depreciation computed on the six per cent sinking fund basis is $52,673,999 as of December 31, 1929. The said cost less accrued depreciation computed on the straight line basis is $45,522,803 as of December 31, 1929.

Affiant further states that the theoretical cost to reproduce [fol. 624] new plaintiff's gas properties as they existed December 31, 1929, assuming a four year construction period, January 1, 1926, to December 31, 1929, and applying average prices prevailing during said period and overhead charges in the amount of 22.32 per cent, is $73,637,542, undepreciated; the said reproduction cost new less accrued depreciation computed by the six per cent sinking fund method is $64,179,071. Less accrued depreciation computed by the straight line method the said reproduction cost new is $55,676,886. These figures are shown in Exhibit 56 prepared under the direction of affiant and received in evidence in Case 2747.

Reproduction cost new as used herein is defined as the fair market value of lands as of the date of valuation, and for all other properties the estimated amount of money reasonably required to reproduce new the various units of property existing on the date of valuation assuming construction methods similar to that followed by the company on the actual construction of these properties and the average unit costs of construction or acquisition during the four year period from January 1, 1926, to January 31, 1929.

[fol. 625] AFFIDAVIT OF ROY A. WEHE

The affidavit of Roy A. Wehe, filed on behalf of defendant Railroad Commission, condensed and reduced to narrative form is as follows:

Affiant stated his education, qualifications and experience substantially as set forth in the condensed statement of his testimony before the Commission, heretofore set forth.

The depreciation annuity allowances set forth in Tables II and IV of Commission's decision are computed upon the

sinking fund annuity rates presented in Exhibit 56 prepared by affiant and offered in evidence in Case 2747. The following table sets forth in detail the development of the depreciation expense allowances used in Table II of said Commission decision.

[fol. 626] Table I

Item	Fixed capital, 12-31-29	Annuity, life	(6% sinking fund) Rate	Amount
Intangible Capital	$429,126	....	.....	.....
Tangible Capital:				
Lands	3,500,888	....	.....	.....
Production Capital:				
Buildings	2,048,947	33	.010273	$21,049
Holders	5,180,745	40	.006462	33,478
Boilers	1,257,589	25	.018227	22,922
Generators	2,236,350	18	.032357	72,362
Purifiers	1,427,053	20	.027185	38,794
Accessories	7,064,966	20	.027185	192,061
Total Production	$19,215,650			$380,666
Distribution Capital:				
Mains	20,290,463	28	.014595	296,099
Services	6,529,876	20	.027185	177,352
Meters and Regulators	4,876,698	30	.012649	61,685
Misc. Dist. Equip	329,689	10	.075868	25,013
Structures	185,187	35	.008974	1,662
	$32,205,912			$561,811
General Capital:				
Structures	1,981,857	45	.004701	9,317
General Office Equip	359,857	15	.042963	15,461
B. & C. Shop and Stores	91,473	....	.....	.....
Garage and Stable	690,065	....	.....	.....
Tools & Miscel	212,368	....	.....	.....
	$3,335,611			$24,778
Total Fixed Capital	58,687,187			967,255
Annuity on $155,000 interest Addition .017665x$155,000				2,738
Annuity on $244,330 Excess Service Length .027185x$244,330				6,642
Adjusted Depreciation Annuity as of 12-31-29				$976,635

[fol. 627] Depreciation Annuity on Average Capital in Service

	1928	1929	1930
As of 12-31-29	$976,635	$976,635	$976,635
Less the Annuity on 1929 Net A's and B's	19,963	.....	.....
Less the Annuity on ½ 1928 Net A's and B's	13,377	.....	.....
Less the Annuity on ½ 1929 Net A's and B's	.....	9,982	.....
Plus the Annuity on ½ 1930 Est. Net A's and B's	.....	.....	12,862
Average Annuity	$943,295	966,653	989,497
Used in Table II (Decision)	943,000	967,000	990,000

The depreciation annuity rates used in Tables II and IV of the Commission's decision were prepared after an exhaustive study into the actual requirements of plaintiff corporation; Exhibit 58, prepared by affiant, sets forth the history of the depreciation reserve in respect to credits and debits to said reserve and its relation to the fixed capital in service, for a period of seventeen years, 1913 to 1929 inclusive. The depreciation expenses on the general items under general capital of (1) B & C Shop and Stores, (2) Garage and Stable, and (3) Tools and Miscel. are reflected in operating expenses and in Additions and Betterments to capital, under the accounting practice followed by plaintiff, and to include them again in computing depreciation expense would result in duplication. In this respect, affiant states that such duplications were apparently inadvertently made by this Commission in their two previous decisions (December 31, 1926, 29 C. R. C. 164, and November 13, 1928, 32 C. R. C. 379). In the 1926 decision, for example, the above three [fol. 628] items were allowed to the extent of $103,044.30, and making these deductions reduces the annuity allowed in the 1926 decision from $1,078,455.06 to $975,410.76.

The depreciation rates that the plaintiff is now using on their books are those presented in Table I with the exception of four classes of property noted in Table II. On these items reductions have been made.

Table II sets forth the relation that the plaintiff's depreciation reserve bears to the fixed capital for the respective distribution capital groups indicated.

Table II

Year	Mains	Services	Meters	Regulators
1913	8.9	11.5	15.0	10.6
1914	11.3	14.3	18.0	13.4
1915	13.2	16.7	10.1	13.4
1916	15.0	18.8	22.0	15.7
1917	14.7	19.1	15.1	11.2
1918	16.5	23.2	18.8	14.4
1919	17.1	26.4	21.8	16.9
1920	17.3	26.6	23.4	16.8
1921	15.1	25.0	23.6	17.7
1922	12.6	23.2	23.2	18.2
1923	10.7	20.9	21.6	18.1
1924	10.2	20.4	21.8	18.2
1925	9.8	20.8	23.9	19.4
1926	9.7	22.2	26.4	20.1
1927	10.8	22.7	27.5	19.4
1928	12.1	22.9	29.4	21.6
1929	13.7	23.0	31.1	22.7

Table III sets forth the yearly increase in depreciable capital from 1918 to 1930, inclusive, and the accruals and retirements made from the depreciation reserve during said period. This table is for gas capital only and for simplicity no proration from "General" capital is included.

[fol. 629]

Table III

Year	Depreciable capital January 1st	Addition to depreciation reserve	Withdrawals from depreciation reserve	Excess of additions over withdrawals	Balance in depreciation reserve
1918.....	11,946,263	328,692	6,393	322,299	2,495,597
1919.....	12,018,833	352,128	24,731	327,397	2,822,994
1920.....	12,886,194	348,662	59,730	288,922	3,111,916
1921.....	14,305,139	431,605	648,156	216,551*	2,895,365
1922.....	19,968,495	531,416	282,217	249,199	3,144,564
1923.....	29,921,340	675,522	304,667	370,855	3,515,419
1924.....	35,296,544	810,713	242,787	567,926	4,083,345
1925.....	40,950,373	918,837	480,318	438,519	4,521,864
1926.....	45,296,171	988,191	418,613	569,578	5,091,442
1927.....	46,960,189	1,325,368	355,726	969,642	6,061,084
1928.....	48,951,017	1,472,868	365,559	1,107,309	7,168,393
1929.....	50,234,641	1,565,701	383,943	1,181,758	8,350,151
1930.....	58,058,642				

* Red Figure.

Table II shows that the reserve is growing at a more rapid rate than the depreciable capital notwithstanding the fact that plaintiff's gas properties (especially mains and services during the last few years) have been subject to extraordinary replacements due to the marked growth in the territory served and because of the transition from manufactured to natural gas.

Table III shows that the additions to the depreciation reserve have been far in excess of the retirements, additions including interest on the reserve as well as direct accruals to the reserve.

The depreciation reserve exceeds the amount of the accrued depreciation hereinafter found to exist in plaintiff's properties; the annual depreciation expense in the amount of $990,000 for the year 1930 on the historical cost basis (and for other years as shown on Table II of the Commis-[fol. 630] sion's Decision) and $1,072,000 for the year 1930 on the present value basis (and for other years as shown in Table IV of said decision) is a liberal allowance and more than sufficient to meet the needs and requirements of plaintiff.

The accrued depreciation on plaintiff's gas properties was not less than $7,650,000 as of December 31, 1929. Table IV summarizes the percentages of remaining value and of accrued depreciation used in developing depreciated cost and accrued depreciation estimates.

Table IV

Account	Accrued depreciation, %	Remaining value, %
Intangible Capital:		
301 Organization	0.0	100.0
302 Franchises	0.0	100.0
Tangible Capital:		
Production:		
311 Land	0.0	100.0
312 Structures	8.0	92.0
313 Boiler Plant Equip	15.0	85.0
314 Production Equip	11.9	88.1
315 Storage Equip	3.5	96.5
316 Misc. Prod. Equip	10.0	90.0
317 By-Prod. Plant	10.3	89.7
Total Production	9.3	90.7
Distribution Capital:		
351 Land	0.0	100.0
352 Structures	4.7	95.3
353 Dist. Station Eq	9.6	91.4
354 Dist. Storage Eq	5.3	94.7
355 Dist. Mains	14.0	86.0
356 Dist. Rg. & Met	3.6	96.4
357 Services	19.3	80.7
358 Consumers Met. & Reg.	10.3	89.7
360 Inst. on Cons'. Prem	15.0	85.0
361 Misc. Dist. Eq	12.0	88.0
Total Distribution	15.3	86.7

[fol. 631]

General Capital:		
375 General Office Land.....	0.0	100.0
376 General Office Structures.	1.0	99.0
377 General Office Equip.....	10.0	90.0
378 Other General Land.....	0.0	100.0
379 Other General Struct....	4.9	95.1
381 General Shop Equip.....	20.0	80.0
382 General Stores.....	15.0	85.0
383 General Transp.....	42.7	57.3
384 General Const.....	15.0	85.0
385 General Comm.....	5.0	95.0
Total General.....	10.0	90.0
Total Tangible.....	11.9	88.1
Total Capital.....	11.9	88.1
Add because of Wt. Iron.....	30.0	70.0
Total Capital with WC Allowance.	12.9	87.1*

The percentages set forth in Table IV and resulting estimates of depreciation have been developed only after a most careful and thorough analysis of all pertinent facts; all estimates are judgment estimates based upon an extensive and complete physical inspection of plaintiff's properties (in so far as the same was possible) and upon a complete analysis of plaintiff's actual performance as disclosed by their operating records. The actual correlation of the physical aspects of depreciation and the additional facts in respect to past retirements, age, rates of growth, cost of maintenance, future service and allied items, were translated in part by the use of life expectancies taking into consideration the fact that capital was not a free goods and that compensation must be paid for its use. Lives in so far as they entered into the calculations were based upon the [fol. 632] age, plus expectancy conception and were not taken from life tables.

Affiant made a thorough analysis of the books and records of the plaintiff corporation and found that during the

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* Affiant also developed a "straight line" estimate and testified to the same—the percentage corresponding to 87.1 is 75.6.

seventeen year period 1913 to 1929, inclusive, the company charged to capital on the average 5.98 per cent of direct labor and material costs as overheads. Said percentage of 5.98 is the support for the six per cent used by affiant, actually incurred and cleared to construction by the corporation, year by year as they saw fit to distribute such charges. In affiant's opinion plaintiff corporation might have reasonably charged to construction 11.25 per cent as overheads. However, any amounts incurred as overheads in excess of six per cent were not charged to capital but were in fact charged to operation and currently paid for by the consumers.

[fol. 633] AFFIDAVIT OF CLAUDE C. BROWN

The affidavit of Claude C. Brown, filed on behalf of defendant Railroad Commission, condensed and reduced to narrative form is as follows:

Affiant stated his education, qualifications and experience substantially as set forth in the condensed statement of his testimony before the Commission, heretofore set forth:

The value of $95,000,000 alleged in the Bill of Complaint herein to be the value of the properties of the Los Angeles Gas and Electric Corporation used and useful in its gas operations is the estimate of the reproduction cost new as of January 1, 1930, submitted by Mr. Luick in Exhibit No. 32 in Case 2747 before the Railroad Commission. The reproduction cost of production capital alone, which includes the gas generating plants of 100,000,000 cubic feet capacity referred to in the complaint, as estimated by Mr. Luick, is $20,819,402.

Los Angeles Gas and Electric Company has continuously since April 22, 1927, distributed to its consumers straight natural gas. No manufactured gas has been produced by means of said gas manufacturing plants with the single exception of 569,000 cubic feet on March 13, 1928, at the time of the St. Francis Dam disaster when a number of incoming natural gas transmission lines were washed out. The total gas sendout on plaintiff's system on that day was 60,648,000 cubic feet of which the 569,000 cubic feet of [fol. 634] manufactured gas constituted nine-tenths of one per cent, and the total gas sendout on plaintiff's system for the calendar year 1928 was 18,651,633,000 cubic feet of

which the 569,000 cubic feet of manufactured gas constituted three-thousandths of one per cent.

The gas manufacturing plants in question consist of three separate adjacently located plants as follows:

Plant	Number of generator sets	Daily rated capacity 550 B.T.U. oil gas
No. 1	7	30,000,000 cubic ft. per day
No. 2	9	28,500,000 " " " "
No. 3	5	40,000,000 " " " "
Total 3 Plants	21	98,500,000 " " " "

The gas that can be manufactured from oil in these plants in the quantities shown above has an average heating value of 550 to 600 British Thermal Units per cubic foot, whereas the heating value of the natural gas which is now being and has been delivered by plaintiff to its consumers averages from 1100 to 1150 British Thermal Units per cubic foot. In the type of oil gas manufacturing plant such as these plants in question it is not possible to economically manufacture a gas having a higher heating value than 625 B. T. U. per cubic foot.

Subsequent to April 22, 1927, these plants have been and still are being held in reserve as an emergency standby source of 550 to 600 B. T. U. gas, although it is impossible for plaintiff's consumers to burn the 550 to 600 B. T. U. gas from these plants in their gas appliances which have all been readjusted to burn natural gas.

[fol. 635] The following table sets forth the extent to which these plants have been heated up and the quantity of gas manufactured since the institution of the service of straight natural gas on its system by plaintiff.

Operation of Gas Manufacturing Plants

Plant	Date heated up	Date closed down	Days hot	Gas manufactured
	Winter 1927–1928			
Plant No. 1	11/19/27	1/5/28	47	0
Plant No. 2	11/24/27	1/1/28	38	0
Plant No. 3	11/3/27	4/6/28	155	569,000 cu. ft.
	Winter 1928–1929			
Plant No. 1	Not heated up	.....	0	0
Plant No. 2	" " "	.....	0	0
Plant No. 3	12/6/28	1/16/29	41	0
	Winter 1929–1930			
Plant No. 1	Not heated up	.....	0	0
Plant No. 2	" " "	.....	0	0
Plant No. 3	12/6/29	3/1/30	85	0

There now exists and is available to plaintiff an adequate and continuous supply of natural gas for all its domestic, commercial and essential industrial requirements.

From the above, it is evident that the gas generating equipment, in these plants is not now and since March 13, 1928, has not been, used and useful in the conduct of plaintiff's public utility gas business for the purpose of manufacturing gas.

Of the total production plant capital estimated by Mr. Luick to have a reproduction value of $20,819,402 and in- [fol. 636] cluded within the alleged value of the total gas properties of the company of $95,000,000, those portions of such production plants not now used and useful were by him valued at $7,105,900.

There recently has become available an unlimited supply of liquid hydrocarbon gas, and much attention has been given by gas utilities to the use of such gas as a standby for natural gas service. Its use for that purpose has many advantages over oil gas generation. It is stored in tanks in liquid form and readily mixed with air to produce mixtures of any heating value up to 2800 B. T. U. per cubic foot, the heating value of the straight vaporized hydrocarbon gas. The heating value of such mixtures is not limited to 625 B. T. U. per cubic foot as is the gas produced in oil gas manufacturing plants, and the cost of liquid storage and mixing facilities is very much lower than the cost of an equivalent capacity of oil gas plant, as are the costs of maintenance, operation and fixed charges. The mixed gas from such a plant, consisting of a mixture of hydrocarbon gas and air of 1100 or 1150 B. T. U. heating value is instantly available in any quantity desired to supplement or replace natural gas service of like heating value and, in affiant's opinion and belief, it is entirely feasible to substitute such an air-hydrocarbon gas mixture for natural gas up to a substantial percentage of the total sendout, without impairment of service to the consumer.

The cost of such an air-hydrocarbon gas mixing plant [fol. 637] of a capacity equivalent to plaintiff's oil gas generating plants could be installed at a cost of approximately $540,000. The expense of operation, maintenance and depreciation necessitated by the continued operation of the generating portions of the existing oil gas manufacturing plants, as estimated by the plaintiff in its Ex-

hibit No. 50 in the hearing before the Railroad Commission amounts to $257,000 per annum. The same items of expense which would be incurred in the operation of a hydrocarbon gas plant of equivalent capacity would not be in excess of $7,000 per annum, thus effecting an annual saving of approximately $250,000.

[fol. 638] AFFIDAVIT OF THEO. STEIN

The affidavit of Theo. Stein, filed on behalf of defendant Railroad Commission, condensed and reduced to narrative form is as follows:

Affiant is a resident of the City of Oakland and an accountant in the employ of the Railroad Commission of California, and has been actively engaged in the profession of accounting for the past twelve and one-half years; he is a graduate of the City College of New York and a member of the International Accountants' Society of Chicago; he was employed for one year as assistant statistician of the Car Service Section of the American Railway Association, four years as supervising accountant of the United States Railroad Administration in charge of claim analysis, and for three years was actively associated with a certified public accountant in public practice; for the past five and one-half years he has been employed as accountant with the Railroad Commission of California.

Affiant is familiar with the Uniform System of Accounts for Gas Corporations prescribed by the Railroad Commission and applicable to plaintiff corporation subsequent to January 1, 1913; he is familiar with record made before the California Railroad Commission in Case 2747.

With reference to plaintiff's claims of going concern value, affiant states that he is familiar with the books and [fol. 639] records of the Los Angeles Gas and Electric Corporation; that said books and records show that said company expended for the development of new business for its gas department during the period 1913 to 1929, both inclusive, the sum of $1,358,217.66. The amount so expended during each of said years is shown in the following table:

Year	Amount
1913	$56,064.65
1914	49,909.55
1915	49,159.64
1916	52,956.58
1917	61,595.47
1918	56,095.14
1919	61,402.44
1920	72,150.84
1921	81,263.63
1922	93,452.74
1923	101,842.17
1924	108,624.37
1925	99,110.88
1926	93,193.90
1927	102,829.78
1928	109,152.05
1929	109,413.83
Total	$1,358,217.66

The foregoing amounts were charged and distributed under the several primary accounts for new business expenses and charged to operation. No part of said expenses [fol. 640] were charged to capital. The Uniform Classification of Accounts for Gas Corporations, prescribed by the Railroad Commission and effective from January 1, 1913 to January 1, 1924, provided for two accounts to which the cost of securing new business was to be charged. The two accounts were as follows:

E-49. New Business Expenses

Charge to this account the cost of all material and labor expended in getting new business. This includes the cost of advertising, printing, posters, handbills, commissions paid canvassers, solicitors, and dealers for introduction and sale of gas appliances, etc., also salaries of advertising manager, collectors, solicitors, together with their personal expenses, livery, etc., and costs of demonstrations and exhibitions.

E-50. Free Installation Expenses

Charge to this account the cost of all material and labor expended in furnishing free house piping, free connection

of appliances, unless the cost of such service be paid by the consumers.

The Uniform System of Accounts prescribed by the Railroad Commission for Gas Corporations and effective January 1, 1924, and now in effect, segregates the following expenses under new business:

V. New Business Expenses

General Note.—The accounts under "New business expenses" are not intended to include any expense connected with merchandising and jobbing carried on as a separate [fol. 641] department of the corporation's business and not primarily for the purpose of obtaining new business for the gas department. If the corporation sells merchandise or does jobbing work at or below cost for the purpose of inducing greater use of gas, a debit balance in the merchandise jobbing account due to such practice may be charged to "New business expenses," account 836, "Miscellaneous new business supplies and expenses."

831. New Business Management Salaries

This account shall include the pay of officials and their assistants responsible for the administration of the department maintained for the promotion or development of consumption of gas, including that equitable portion of the salaries of management and clerks in agencies and contract departments assignable to new business.

832. New Business Advertising

This account shall include the cost of advertising for the purpose of creating new business, as designated in the following subaccounts (a) and (b), the keeping of which is optional with the corporation unless otherwise ordered or directed.

(a) New Business Advertising Salaries.—This subaccount shall include the salaries of the advertising manager and clerks.

[fol. 642] (b) Advertising Supplies and Expenses.—This subaccount shall include the cost of newspaper advertising,

booklets, dodgers, posters, bulletins and similar items; also the cost of stationery and other supplies for, and other miscellaneous expenses of, the advertising department.

833. Demonstrating, Canvassing, and Soliciting

This account shall include the items of expense designated in subaccounts (a) and (b) hereunder, incurred in demonstrating the use of gas appliances, etc., and in soliciting new business. The keeping of the subaccounts is optional with the corporation unless otherwise ordered or directed.

(a) Demonstrations.—This subaccount shall include the cost of labor and the expenses incurred in demonstrating the use of gas appliances, etc., for the purpose of obtaining new business.

(b) Canvassing and Soliciting.—This subaccount shall include all expenses incurred in soliciting new business, such as wages, commissions, and personal expenses of canvassers, cost of preparing estimates, engineering advice on gas installations, etc., and office sundries in connection therewith.

[fol. 643] 834. Piping and Appliances

This account shall include the cost of piping consumers' premises and the installation of gas appliances, including delivery and connection charges and expense in connection therewith, supplied to consumers without charge in order to induce new business.

835. New Business Rents

This account shall include all rents payable properly includable in operating expenses under the instructions contained in sec. 8, "Rents," p. 91, for offices, etc., of others used or occupied by the new business department.

836. Miscellaneous New Business Supplies and Expenses

This account shall include the office and personal and incidental expenses of the promotion or new business department, such as stationery and other office supplies, etc., not provided for in the foregoing "New business expense" accounts.

Affiant further states that the costs incurred by plaintiff in the training of its personnel and its operating organization have been charged to new business expense, or otherwise charged to expense of operation.

Affiant states that under the Uniform System of Accounts prescribed by the Railroad Commission applicable to plaintiff corporation at all times subsequent to January 1, 1913, discretion and latitude has been accorded officers of plaintiff in the allocation of overhead construction costs to capi- [fol. 644] tal or to operation; that in this regard the said Uniform System of Accounts of Gas Corporations prescribed by the Railroad Commission in effect during the period from January 1, 1913 to December 31, 1923, contain general instructions applicable to the classification of fixed capital accounts and provided that

"The term 'cost' as used in the texts for fixed capital accounts means the *original* cost to the corporation. It includes not only the costs of labor, materials and supplies directly employed or consumed in the construction and installation of property classed as fixed capital, but also the cost of preliminary plans and surveys and such portion of the expenses for engineering and plant supervision and general expenses as may be chargeable to the fixed capital accounts under an equitable plan for the apportionment of such expenses."

On and after January 1, 1924, the Uniform System of Accounts for Gas Corporations prescribed by the Railroad Commission of California specifically directed the distribution of overhead construction costs in fixed capital accounts in the following language:

"So far as possible overhead construction costs, such as engineering costs, law expenses, injuries and damages, taxes and interest during construction, shall be assigned or apportioned to particular accounts, to the end that each item of property shall bear its proper share of such cost and that the entire cost of the item of property, both direct and overhead, may be deducted from the fixed capital accounts at the time the item of property is retired.

"When overhead construction costs pertain to the entire enterprise and cannot be assigned or apportioned, they should be charged to the appropriate fixed capital accounts, 391 to 396 inclusive.

"The instructions contained in this section should not be interpreted as permitting, except in the case of interest, the addition to fixed capital of arbitrary percentages on amounts to cover assumed overhead costs, but only as requiring the assignment or apportionment to particular fixed capital accounts of actual and necessary overhead construction costs."

The foregoing Uniform System of Accounts prescribed [fol. 645] by the Railroad Commission were applicable to plaintiff corporation and the one promulgated January 1, 1924 is now and at all times since said date has been applicable to plaintiff corporation.

Plaintiff in its historical reproduction cost estimate claims an allowance of $1,147,802 as cost of brokerage. In its reproduction cost new appraisal it claims an allowance of $5,921,470 for cost of financing and $2,500,000 as promoter's remuneration. The claimed allowance for intangible items of cost of financing and promoter's profits were rejected by the Commission in its decision as too hypothetical, and it was pointed out in said decision that the sum of $415,734 was included in the allowed historical rate base for "organization." In this regard affiant states that the Uniform System of Accounts for Gas Corporations, prescribed by the Railroad Commission, effected on January 1, 1913 to December 31, 1923, provided that the cost of organizing a corporation and the cost of issuing and selling its stock, should be charged to Account C-I "Organization" under "Intangible fixed capital." To the Account C-1 "Organization" were to be charged.

"All fees paid to governments for the privilege of incorporation, and all office and other expenditure incident to organizing the corporation or other enterprise and putting it in readiness to do business. This includes cost of preparing and distributing prospectuses, cost of soliciting subscriptions for stock (but not for loans nor for the purchase of bonds or other evidence of indebtedness), cash fees paid to promoters, and the actual cash value at the time of organization of securities paid to promoters for their services in organizing the enterprise; counsel fees; cost of preparing and issuing certificates of stock, and cost of procuring certificates of necessity from state authorities, and other

like costs. Like costs incident to preparing and filing certificates of authorization of increase of capital stock, and to the negotiations and issue of stock thereunder, shall be [fol. 646] classed as additions. Costs of preparing and filing certificates of amendment of articles of incorporation shall be classed as a betterment. Costs of preparing and filing papers in connection with the extension of the term of incorporation or with reincorporation consequent upon reorganization shall be classified as a renewal. This account shall not include any discounts upon stocks or other securities issued, nor shall it include any costs incident to negotiating loans or selling bonds or other evidence of indebtedness."

The Uniform System of Accounts for Gas Corporations prescribed by the Railroad Commission and effective January 1, 1924, provides for an account called "Organization" (No. 301) under "Intangible fixed capital." The System of Accounts provides that there shall be included in such account all

"Fees paid to governments for the privilege of incorporation and all office and other expenditures incident to organizing the corporation or other enterprise and putting it into readiness to do business. This covers cost of preparing and distributing prospectuses, cost of soliciting subscriptions for stock, cash fees paid to promoters and the actual cash value at the time of organization of securities paid to promoters for their services in organizing the enterprise, special counsel fees, cost of preparing and issuing certificates of stock and cost of procuring certifiates of necessity from state authorities and other like costs; also costs incident to preparing and filing certificates of authorization of increase of capital stock and to the negotiation and issue of stock thereunder and of preparing and filing certificates of amendment of articles of incorporation.

"This account does not include any discount on stocks or other securities issued, nor does it include any costs incident to negotiating loans or selling bonds or other evidences of indebtedness.

"NOTE A.—Cost of preparing and filing papers in connection with the extension of the term of incorporation or

with reincorporation consequent upon reorganization should be charged to account 846, 'Law expenses—general.'

"NOTE B.—Costs incident to the reissue or resale of reacquired stock should be included in account 508, 'Miscellaneous debits to profit and loss'."

[fol. 647] AFFIDAVIT OF A. V. GUILLOU

The affidavit of A. V. Guillou, filed on behalf of defendant Railroad Commission, condensed and reduced to narrative form, is as follows:

Affiant stated his education, qualifications and experience substantially as set forth in the condensed statement of his testimony before the Commission, heretofore set forth.

Affiant is familiar with the properties of Los Angeles Gas and Electric Corporation and with its actual revenues and expenses of operation; prior to and in the course of the hearing held before the Railroad Commission in Case 2747, studies of reasonable expenses of operation and probable gross and net revenues to be anticipated by plaintiff corporation were made under his supervision and direction; he has read the Bill of Complaint herein and the affidavit of Mr. Masser in support of plaintiff's motion for interlocutory injunction and is familiar with the contents thereof.

The rates prescribed in Decision No. 23,102 were not in effect during the twelve months ending October 31, 1930, and the results of the operations of Los Angeles Gas and Electric Corporation during that period, as shown in the table on Page 7 of the affidavit of Mr. H. L. Masser, give no indication of the fairness of such rates, except as the theoretical application of such rates to that period may indicate the probable results of the actual application of such rates in the future. In using the results of operation dur-[fol. 648] ing this period for this purpose, consideration must be given to certain abnormal or unusual conditions and occurrences during said period, which reasonably cannot be anticipated to recur in the future.

The winter of 1929-1930 was mild and atmospheric temperatures in and about Los Angeles were higher than normal, as is shown by the records of the weather bureau. Consumers used less gas for heating purposes than they

would have used had colder weather prevailed and the revenues of the corporation were correspondingly reduced. As is later shown in greater detail, the gross revenue of the corporation was approximately $550,000 less than it would have been had normal temperatures been experienced. It is no more reasonable to assume that the warm winter of 1929-1930 will be repeated in the future than to assume that abnormally cold weather and increased revenues will prevail. In the opinion of affiant the only fair test of future rates is on the assumption of normal temperatures.

During said period ending October 31, 1930, the corporation incurred certain unusual expenses which are included in the statement of actual expenses set forth in Mr. Masser's affidavit and which reasonably may not be expected to recur in the future, and which are referred to in the decision of the Commission as not representative or are expressly declared to be improper.

The following table shows the results of the adjustment of the actual revenues and expenses incurred during the period ending October 31, 1930, to more accurately reflect the results of future operations.

[fol. 649] Results of Operation, Year Ending October 31, 1930

Gas Department Los Angeles Gas and Electric Corporation

	Present rates		Rates prescribed	
	As shown in affidavit of H. L. Masser	As corrected to test rates for the future	As shown in affidavit of H. L. Masser	As corrected to test rates for the future
Gross Revenue:				
Domestic and Commercial Sales	$14,955,448.57	$15,509,000	$13,609,458.25	$14,113,000
Industrial Sales	637,203.58	637,000	637,203.58	637,000
Miscellaneous Revenue	105,788.19	106,000	105,788.19	106,000
Total	$15,698,440.34	$16,252,000	$14,352,450.02	$14,856,000
Operating Expenses:				
Gas Production Expense	$4,393,859.29	$4,534,000	$4,393,859.29	$4,534,000
Transmission & Distribution Expense	1,073,866.11	1,074,000	1,073,866.11	1,074,000
Commercial & New Business	992,610.15	993,000	992,610.15	993,000
General Expense	1,039,323.27	754,000	1,039,323.27	754,000
Subtotal	$7,499,658.82	$7,355,000	$7,499,658.82	$7,355,000
Taxes	1,604,334.42	1,758,000	1,352,992.26	1,501,000
Depreciation	1,266,273.68	990,000	1,300,000.00	990,000
Uncollectible Accounts	177,215.51	184,000	162,020.93	168,000
Total Operating Charges	$10,547,482.43	$10,287,000	$10,314,672.01	$10,014,000
Net for Return	$5,150,957.91	$5,965,000	$4,037,778.01	$4,842,000
Fair Value as claimed by Corporation	$95,767,351.00	$95,767,000	$95,767,351.00	$95,767,000
Rate of Return on same	5.38%	6.2%	4.22%	5.0%
Fair Value used in Commission's Decision	$65,500,000.00	$65,500,000	$65,500,000.00	$65,500,000
Rate of Return on same	7.86%	9.1%	6.16%	7.4%
Historical Rate Base used in Commission's Decision	.....	$60,704,000	.....	$60,704,000
Rate of Return on same	.....	9.8%	.....	8.0%

[fol. 650] In the above table the first and third columns of figures are copied directly, for purposes of comparison, from the table appearing on page 7 of the affidavit of Mr. Masser. In the second and fourth colum-s are shown the adjustment of certain figures for conditions of normal temperature and normal expenses, in order that they may be fairly used as a standard by which to test the reasonableness of rates in the future.

The figure for revenue from domestic and commercial sales has been adjusted to show what the revenue would have been had normal temperatures prevailed. As a result of past experience, methods have been developed for calculating, from the actual sales of gas and the actual temperatures, what the sales of gas and revenues therefrom would have been had temperatures been normal. From time to time, the corporation has furnished the Railroad Commission with statements of such adjustments in its sales of gas and the adjustment made in the above table is based upon such figures furnished by the corporation. The amount of gas actually sold during said period having been less than normal, the amount of gas purchased at wholesale and the cost thereof was also less than normal and an adjustment upward in the item of Gas Production Expense has been made.

From the item of general expense, there has been deducted $85,000 for the fee paid to Pacific Lighting Corporation, which is referred to in the Commission's decision and there found to be an unreasonable operating expense.

From the item of General Expense, there has also been [fol. 651] deducted $70,000 as an unusual and non-recurring expense in connection with the conduct before the Commission of the proceeding leading up to the decision now in question. The total amount expended by the corporation for regulatory commission expense, during the period in question, was $98,506, of which $70,000 is deducted as unusual, leaving, as a probable normal expense, $28,000, which is in excess of any amount actually incurred during recent years, except in connection with the present case.

From the item of General Expense there has also been deducted $50,000 as an unusual and non-recurring expense, being a part of the cost of preparing a valuation of the

gas properties of the corporation. As such valuations are necessary from time to time, but not every year, and as a routine valuation department is maintained the whole of the sum of $87,000 included in the expense for the period in question has not been deducted.

From the item of General Expense there has also been deducted $80,000 as an unusual and non-recurring expense, being a portion of the sum of $104,000 charged to the gas department for the cost of defending a law suit attacking the electric franchise of the corporation. While the trial of this suit in the Superior Court has been completed, such unusual expenses may reasonably be anticipated at infrequent intervals and the entire charge to the gas department has accordingly not been deducted.

The amount of taxes and uncollectible accounts are dependent upon the revenues of the corporation and these items have been adjusted to what they would have been had the gross and net revenues been as calculated instead of as [fol. 652] they actually were.

Depreciation expense has been adjusted from that shown by Mr. Masser to the amount of $990,000, which amount was found to be reasonable after careful study of the past experience of the corporation by Mr. R. A. Wehe, an engineer of the Commission, which study and conclusion is more extensively set forth in an affidavit prepared by him.

Affiant further states that in his opinion the actual revenues and expenses of the corporation during the twelve months ending October 31, 1930, adjusted as aforesaid to reflect the effects of normal temperatures and to eliminate unusual and non-recurring expenses constitute a substantially accurate means of testing the reasonableness and adequacy of rates for the future.

Affiant further states that the figure of $15,003,000 estimated as the gross operating revenue of Los Angeles Gas and Electric Corporation for the year 1930, under the assumption that the rates prescribed by the Commission's decision had been in effect, which figure appears in Table V of the Commission's decision, was based upon the temperature corrected revenue for the first five months of 1930 as presented by the plaintiff corporation in the proceeding before the Commission, to which was added the estimate of Mr. Masser, the Vice President of the corporation, of the probable revenue for the last seven months of 1930, which

revenue was estimated by him on the basis of normal temperatures for said months. These figures were corrected only by a reduction of 9 per cent for the change in rates for domestic and commercial gas ordered by the decision. The difference between this figure of $15,003,000 used in the [fol. 653] Commission's decision, and the figure of $14,352,450 presented in the affidavit of Mr. Masser, is, therefore, due to the departure from normal of the temperature of the winter of 1929-30, to the difference in the period to which the figures apply, and to the difficulty of accurately predicting the future revenues estimated by Mr. Masser in the proceeding.

[fol. 654] AFFIDAVIT OF W. C. FANKHAUSER

The affidavit of W. C. Fankhauser, filed on behalf of defendant Railroad Commission, condensed and reduced to narrative form, is as follows:

Affidavit stated his education, qualifications and experience substantially as set forth in the condensed statement of his testimony before the Commission, heretofore set forth.

The 6.40 per cent stated in the affidavit of Paul A. Sinsheimer to represent the cost of bond money, is taken from Exhibit 37, witness Houghton. In determining the 6.40 per cent, witness Houghton considered all bonds issued by Los Angeles Gas and Electric Corporation from 1909 to date, regardless of whether such bonds had been redeemed or are now outstanding. He further treated unamortized discount and expenses applicable to bonds redeemed as though such bonds had not been redeemed and the premium paid upon the redemption of bonds as a cost of money obtained from the issue of new bonds, instead of charging such unamortized discount and expenses and premium to profit and loss. In arriving at the said average cost of 6.40 witness Houghton used proceeds of $55,462,369, whereas Paul A. Sinsheimer, in Exhibit No. 39, shows the company has invested in capital funds about $44,000,000 obtained through the issue of bonds. It is not proper to apply the 6.40 to the $44,000,000. As heretofore stated by affiant, the cost of bond money presently invested in the company's property is 5.96 per cent, if the discount and expense is amortized on

[fol. 655] a sinking fund basis and 6.08 if amortized on a straight line basis.

Affiant states that the records of Los Angeles Gas and Electric Corporation do not show the cost of common stock money. The company issued $9,993,000 of its common stock for property, the cash value of which cannot be determined by an examination of the company's record. The balance of the common stock outstanding in the amount of $10,700,000 was issued for cash at par.

Mr. Sinsheimer has included in his cost of capital funds .987% as a margin of safety. If one assumes his cost of money with margin of safety to be correct and applies it to his invested capital of $81,000,000, there would remain for surplus $799,410.

An analysis of the annual reports which Los Angeles Gas and Electric Corporation has filed with the Railroad Commission from 1913 to 1929 show the amount charged to profit and loss, other than dividends to have been as follows:

1913	$87,426.19
1914	24,368.61
1915	7,397.43
1916	2,444.68
1917	4,186.39
1918	19,610.50
1919	22,140.84
1920	62,613.91
1921	22,745.30
1922	15,260.94
1923	56,891.35
1924	17,519.11
1925	66,941.09
1926	63,399.40
1927	113,088.33
1928	64,865.55
1929	52,462.93
Total	$860,362.55

[fol. 656] Considering the experience of the company and the contingencies covered by insurance, the premium of which is included in operating expenses, there is no necessity for an annual addition to the company's surplus of

$799,410. The company on December 31, 1929, had an accumulated surplus of $4,176,663, which surplus would have been $9,676,000 had the company not declared stock dividends of $5,500,000.

The statement of Los Angeles Gas and Electric Corporation for the year ending October 31, 1930, filed with the Commission in compliance with General Order 65, shows for its gas and electric department a net profit of $4,736,-329. Deducting from this sum $1,170,630 for dividends on the company's preferred stock leaves $3,565,699 for common stock or earnings at the rate of 17.83 per cent on such stock or 14.8 per cent on common stock and surplus. During the one year period in question the company charged the Pacific Lighting Corporation fee of $120,000 to operation and also the sum of $230,000 as depreciation expense in excess of the amount found reasonable in the decision of the Commission. Adding these amounts to the above figure of $3,565,699 a total of $3,915,699 for the common stock and surplus was realized. This figure represents 19.6 per cent on the common stock and 16.2 per cent on common stock and surplus combined. If the company's gas revenue for the year ending October 31, 1930 had been 9 per cent less than it actually was, such 9 per cent being the reduction ordered in the recent decision of the Commission, the company's profit for the common stock and [fol. 657] surplus would have been $2,569,709, or 12.9 per cent on the common stock and 10.6 per cent on its common and surplus. (No adjustment in these figures is made on account of taxes.)

Affiant is of the opinion that the risks and uncertainties of Los Angeles Gas and Electric Corporation do not materially differ from the risks and uncertainties which an investor takes when he buys securities of Southern California Edison Company or Pacific Gas and Electric Company. The bonds and preferred stocks of the three companies are selling on the open market at approximately the same yield. (The common stock of the Los Angeles Gas and Electric Corporation is not traded on any exchange.)

A study made by affiant of the Commission's decisions authorizing the Southern California Edison Company to issue securities and of the reports which that company filed with the Commission pursuant to its general order number 24 shows that the company from 1924 to 1930, both inclusive, realized from the sale of bonds and preferred

and common stock $236,291,150 and that such securities were sold to yield to those who bought them an average return of 6.04%. During the same period the Pacific Gas and Electric Company realized from the sale of bonds, preferred and common stock $188,536,270, which securities were sold to net the purchaser an average return of 5.77%. The proceeds represent what the company received from the purchaser of the securities. In the case of the common stocks, the dividend paid during the year when such stocks were sold, was used as measuring the cost of common stock money. The amount of bonds, preferred and common stock issued each year and the average effective interest rate follows:

[fol. 658] Southern California Edison Company

Year	Proceeds	Effective interest and dividends	Average rate
1924	$32,500,000	$2,158,122	6.64
1925	20,375,000	1,304,892	6.42
1926	47,400,000	2,641,200	5.57
1927	76,418,300	4,364,764	5.71
1928	21,442,850	1,378,504	6.44
1929	26,205,000	1,600,026	6.10
1930	11,950,000	818,525	6.87
	$236,291,150	$14,266,033	6.04

Pacific Gas and Electric Company

Year	Proceeds	Effective interest and dividends	Average rate
1924	$32,655,000	$2,199,089	6.74
1925	13,927,320	802,828	5.77
1926	22,707,500	1,409,255	6.20
1927	24,543,350	1,427,040	5.82
1928	36,502,900	2,061,920	5.64
1929	25,025,200	1,251,825	5.00
1930	33,175,000	1,699,830	5.13
	$188,536,270	$10,851,787	5.77

The reason for the variation in the average rate is due to the different forms of securities being sold in different years. Some years the companies sold more bonds, in other years more preferred or common stocks.

Of the total proceeds shown in the above table, the Southern California Edison Company realized 11.4 per cent from the sale of common stock, while Pacific Gas and Electric Company realized 28.8 per cent from the sale of such stock.

The affidavit of A. V. Guillou shows that had the rates (9% reduction) complained of been in effect during the year ending October 31, 1930, and had the temperature dur-

ing the year been normal, and had some unusual operating [fol. 659] expenses not been incurred, complainant would have had available for return $4,842,000.00. The depreciation annuity (not interest on reserve) and taxes are included by said A. V. Guillou in operating expenses. Complainant in its General Order No. 65 Report for the year ending October 31, 1930, apportions to its gas department 60.3 per cent of its interest on indebtedness and its amortization of debt discount, expense and premium, and 39.7 per cent of such interest and amortization charges to its electric department. If complainant's outstanding preferred and common stock is apportioned to the two departments on the same basis, the gas department would show an earning of 15.9 per cent on common stock. If the surplus of the company on December 31, 1929 (latest figure at hand), is apportioned to the two departments on a 60.3 per cent and 39.7 per cent basis, the complainant's gas department would show an earning of 13.2 per cent on common stock and surplus combined. The following tabulation shows how the foregoing results were determined:

Available for return as per affidavit of A. V. Guillou for twelve months ending October 31, 1930		$4,842,000
Deductions:		
A. Interest and amortization of discount, expense and premium on bonds as reported by complainant in its General Order No. 65 Report for year ending October 31, 1930	$1,614,077	
B. Interest on a depreciation reserve of $10,000,000 at 6 percent	600,000	
C. 60.3 percent of preferred stock dividend requirements	705,890	
Total deductions		$2,919,967
Available for common stock		$1,922,033

Sixty and three tenths percent of complainant's outstanding common stock ($20,000,000) assigned to gas department equals	$12,060,000
Earnings on common stock	15.9%
Sixty and three tenths percent of complainant's surplus ($4,176,663) as of December 31, 1929, assigned to gas department equals	2,518,528
Earnings on common stock and surplus combined	13.2%

[fol. 660] The following table shows the balances in this account for depreciation reserve, and in the surplus account, by years from 1916 to 1929, inclusive:

	Depreciation reserve		Surplus or profit and loss after payment of dividends and other charges	
	Balance	Increase	Balance	Increase
Dec. 31, 1916	$3,804,383.36	.....	$381,212.97	.....
1917	4,444,556.04	$640,172.68	486,039.36	$104,826.39
1918	5,657,985.71	1,213,429.67	468,719.56	17,319.80*
1919	6,226,501.00	568,515.29	617,923.46	149,203.90
1920	6,810,846.46	584,345.46	229,932.40 (1)	387,991.06* (1)
1921	6,151,328.14 (2)	659,518.32* (2)	684,899.19	454,966.79
1922	6,478,789.59	327,461.45	1,439,227.93	754,328.74
1923	7,034,490.19	555,700.60	2,295,583.68	856,355.75
1924	7,979,825.94	945,335.75	2,302,634.58 (3)	7,050.90 (3)
1925	8,999,739.81	1,019,913.87	3,423,807.10	1,121,172.52
1926	10,507,726.04	1,507,986.23	3,871,657.41	447,850.31
1927	12,479,848.45	1,972,122.41	2,403,342.70 (4)	1,468,314.71* (4)
1928	14,615,885.83	2,136,037.38	2,960,457.03	557,114.33
1929	16,804,105.15	2,188,219.32	4,176,663.09	1,216,206.06
Increase for Period		12,999,721.79	.....	3,795,459.12

* Red Figure.

(1) $542,000.00 charged to surplus and credited to Income Invested in Fixed Capital.

(2) In 1921 $592,674.98 was transferred from Depreciation Reserve to Surplus. This amount represented accumulations from 1912 to 1917 inclusive, disallowed by Internal Revenue Department.

(3) During 1924 the company transferred $943,333.33 from Income Invested in Fixed Capital to Surplus and declared a common stock dividend of $2,500,000.00.

(4) Common Stock Dividend of $3,000,000.00 declared during 1927.

[fol. 661] AFFIDAVIT OF H. M. KAUFFMAN

The affidavit of H. M. Kauffman, filed on behalf of intervener City of Los Angeles, condensed and reduced to narrative form, is as follows:

Affiant resides in the City of Los Angeles and is Research Engineer of the Board of Public Utilities and Transportation of the City of Los Angeles.

He is an engineer by profession, having graduated from the Rose Polytechnic Institute in 1911, with the degree of B. S., and has engaged in engineering practice for more than seventeen years. For a period of approximately seven years he was employed as an engineer by the General Electric Company in testing, designing, research and standardizing work. He was an engineer with the Western Electric Company for approximately one year and five months. He served under the United States flag during part of 1918 and 1919. Since January, 1922, affiant has been continuously in the employ of the City of Los Angeles as engineer for the Board of Public Utilities and Transportation.

The plaintiff has conceded that variations in the mean monthly temperature at Los Angeles have a tremendous effect on the amount of its gas sales and revenues.

Affiant has made temperature corrections to the gas sales of the plaintiff for the period from January 1, 1921 to November, 1930, giving consideration to the gas usage and temperature on each of these 3,617 days. Affiant has made such corrections to the gas sales of the plaintiff for the [fol. 662] twelve-month period from December 1, 1929, to November 30, 1930, inclusive, which shows that had the temperatures averaged those experienced in Los Angeles from August 1, 1908, to September 30, 1929, the plaintiff would have sold 18,427,241 thousand cubic feet of gas for domestic and commercial purposes, or 6.58 per cent. more than the 17,290,222 M.C.F. it did sell during that abnormally warm year. Likewise, affiant has corrected the domestic and commercial revenues of plaintiff for the year ending November 30, 1930, and finds that had temperature been normal it would have received for its gas $15,855,670, or $828.072 more than it did receive, amounting to an increase of 5.51 per cent.

The plaintiff's own witness in C. R. C. Cases 2453 and 2464 (Decision 20448) testified that future estimates of official

temperatures in Los Angeles should conform to the mean average temperatures recorded by the Weather Bureau at Los Angeles since August 1, 1908, when it was established at its present location. This witness was Mr. Ford A. Carpenter, who qualified as a meteorol-ist and introduced his Exhibit No. 22 in that proceeding.

The affiant does not attempt to forecast weather conditions but bases his forecasts of future gas sales upon weather temperatures which the plaintiff's own witness testified should be used.

Temperatures during the year ending November 30, 1930, have been exceedingly high. The mean monthly temperature of December, 1929, was the highest of record for that month [fol. 663] in the fifty-three years during which records have been kept at Los Angeles, and resulted in gas sales being 10.18 per cent. below normal. Nine months of that year were warmer than normal.

Affiant keeps himself informed of economic conditions and is well aware that the country is in the throes of a business depression affecting nearly every line of business.

Affiant states that said business depression has not affected the average gas sales per meter on the system of the plaintiff, but that it has resulted in a lower rate of increase in the number of said gas meters. There are two principal reasons why the sales per meter have not been adversely affected by this depression: (1) The fact that more people club together to reduce expenses, thus resulting in an increase in the number of people per meter; (2) the fact that some people, in order to economize, stay home more, thus requiring more gas for cooking and heating.

The plaintiff's witness, Mr. H. L. Masser (in case Application 11354), forecast sales per meter for the year ending June 30, 1926, which proved to be 3.5% lower than the temperature corrected sales for that year. Again, in the same case, the same witness forecast sales for the year ending June 30, 1927, which later proved to be 8.2% lower than actual sales corrected for temperature. In Case 2453 the same witness forecast sales for the year ending December 31, 1928, which later proved to be 9.3% below the actual sales corrected to twenty-year normal temperature. In each of these cases the plaintiff testified that the saturation point [fol. 664] was being reached in the amount of gas sold per meter and following each case the experience showed that it had not been reached.

The affiant states that there is no evidence of approaching a saturation point. The latest experience, namely, the month of November, 1930, shows an unabated growth in the use of gas per meter. The average consumption per meter, after correcting for temperature variations, has not declined, as stated by Mr. Masser, but, on the contrary, has increased. The only reduction is that due to abnormally warm weather. According to expert testimony, the future weather is just as liable to be extremely cold, resulting in unusually large sales, as it is to be warm, with light sales of gas.

Affiant further alleges that the Commission's estimates of gross and net revenue are too low because it used the method of correcting for temperature employed by the plaintiff's witness, Mr. Masser. Mr. Masser's method is not in conformity with the scientific method of making corrections employed by the affiant, and which was employed by plaintiff in Case 2453, which was heard by the Commission in 1928. Mr. Masser's method here makes these corrections by the use of factors derived from the usage of mixed gas in the years 1921 to 1926, inclusive. As the usage of gas has increased since that period, these factors are naturally inadequate for the year 1930 and result in fallacious and erroneous conclusions. In affiant's opinion, it is incorrect to apply an arbitrary correction factor to present conditions, which was derived from different conditions pertaining several years ago.

[fol. 665] AFFIDAVIT OF FRED F. BALL

The affidavit of Fred F. Ball, filed on behalf of intervener City of Los Angeles, condensed and reduced to narrative form, is as follows:

Affiant resides in the city of Los Angeles and is employed as valuation and rate engineer by the Board of Public Utilities and Transportation of the city of Los Angeles.

He was graduated from Purdue University in 1908, having majored in electrical engineering, and has been engaged in the profession of engineering for more than twenty-one years. In 1909 and 1910 he was employed as draftsman and assistant engineer on various construction

programs throughout the Middle West, including industrial plants, railroad shops and facilities, etc. In 1910 and 1911 he was in the employ of the Ohio Electric Railways as assistant master mechanic in the construction, operation and maintenance of electric railway equipment. From 1912 to 1920, inclusive, he was assistant engineer in the motive power department of the Pennsylvania Railroad, Southwest System, engaged in engineering work embracing the design, construction, operation and maintenance of various railroad facilities such as roundhouses, locomotive and car repair shops and machinery, power plants, substation-, station and terminal facilities, including as well an inventory and appraisal of the physical properties in connection with the Interstate Commerce Commission's inquiry into the value of steam railroad properties in the United States. [fol. 666] During 1921 affiant was assistant engineer in the engineering department of the California Railroad Commission, engaged in a survey and investigation of the financial, operating and service conditions of the Pacific Electric Railway Company. During 1922 he was employed by the Harbor Department of the City of Los Angeles and engaged in making special engineering investigations of rights of way in the harbor district. For three years, 1923, 1924 and 1925, affiant was valuation engineer in the engineering department of the Board of Public Utilities and Transportation, city of Los Angeles, and engaged exclusively in the street railway survey of the city of Los Angeles, performed jointly by the engineering department of the California Railroad Commission and the engineering department of the Board of Public Utilities and Transportation, city of Los Angeles, and a consulting engineer and assistant representing the Pacific Electric Railway Company and the Los Angeles Railway Corporation. This survey included an inventory and appraisal of the physical properties of both utilities and an investigation into the financial, operating, service and credit conditions. During the major portion of 1926 he was employed as a special engineer for the Pacific Electric Railway Company and the Southern Pacific Railroad Company in making special engineering studies concerned in a proposed Union Depot Terminal in Los Angeles. Beginning in the latter part of 1926 affiant again entered the employ of the Board of Public Utilities and Transportation, city of Los Angeles, as valuation and rate

engineer and from which time he has been continuously, and at present is, so employed. Affiant has been engaged [fol. 667] exclusively in inquiries as to property values, financial and operating conditions in connection with the fixing of rates of various public utilities operating in and around the city of Los Angeles and is and has been for several years familiar with the plaintiff's properties devoted to public use and the operation thereof in the distribution of gas to persons for domestic, commercial and industrial purposes; he has participated in and is familiar with the proceedings before the California Railroad Commission, designated as Case No. 2747, in which the plaintiff's rates for domestic and commercial gas were under controversy.

Based upon his knowledge of the matters heretofore referred to, and his knowledge of general business conditions in and about the city of Los Angeles for several years, and his knowledge of the plaintiff's properties and the operation thereof in the service of distributing gas to the public, he hereby avers:

The gas manufacturing plants owned by the Los Angeles Gas & Electric Company consist of three separate plants with an aggregate number of gas generating sets of twenty-one, with a total aggregate daily rated capacity of 98,500,000 cubic feet of gas with a heat value of 550 B. t. u. per cubic foot, whereas the heating value of natural gas which is now being, and has been served to its consumers by the plaintiff, for in excess of three and one-half years, averages in excess of 1,100 B. t. u.'s per cubic foot.

Upon a heating value basis, or a basis of value to the consumer, it would require two cubic feet of gas manufactured [fol. 668] in the plants to equal one cubic foot of natural gas now being, and that has been, served, for in excess of three and one-half years, and upon which the plaintiff's rates to be charged for gas were predicated in Decision No. 17830 of the California Railroad Commission of December 31, 1926.

Based upon the heating value of natural gas now served, the daily rated capacity of the plaintiff's total gas production equipment automatically becomes 49,250,000 cubic feet, and, further, it would be impossible for plaintiff's consumers to properly burn 550 B. t. u. gas produced by these plants in their appliances which have all been ad-

justed to burn natural gas with an average heating value of in excess of 1,100 B. t. u.'s.

Since April 11, 1927, to date, the gas production plants owned by the plaintiff have not been used and useful in its service of gas to its customers. On March 13, 1928, plaintiff did manufacture 569,000 cubic feet of gas which, on a cubic foot basis, represented only nine-tenths of one per cent. of the plaintiff's total gas sent out on its system for that day, and on a basis of heating value represented less than one-half of one per cent. This is the only instance of the plaintiff's gas plants manufacturing any gas subsequent to April 11, 1927 (three years and eight months), which was unnecessary, and admitted as not being required by the plaintiff's witness H. L. Masser, vice-president and executive engineer, in the proceedings before the California Railroad Commission, Case No. 2747. Compared to the plaintiff's total gas sent out for the period from April 11, 1927, to November 30, 1930, the amount of gas manufac- [fol. 669] tured in the plaintiff's gas production plants on a cubic foot basis represents eight ten-thousandths of one per cent., and, on the basis of heating value, four ten-thousandths of one per cent.

There now exists reserves of natural gas available to plaintiff adequate to continuously supply natural gas to all of its domestic, commercial and essential industrial consumers for at least the next fifteen years, based upon the conclusions of John Franklin Dodge, petroleum engineer, a witness appearing for the City of Los Angeles in Case 2747 before the California Railroad Commission, as shown by his testimony and Exhibit No. 59. Affiant further states that the Commission found that an ample supply of natural gas was available to the plaintiff to meet all the demands of its customers in said opinion and order. Affiant therefore states that, after finding there was natural gas available to the plaintiff in quantities sufficient to meet its demands, the Commission was exceptionally liberal to the Company in allowing the value of the artificial gas manufacturing plants to remain in the rate base and to calculate rates for domestic and commercial gas that would allow the plaintiff a fair return upon the value of capital invested in said production plants. Affiant further states that there exists in the rate base of the plaintiff's property found by the Railroad Commission excessive value representing land,

buildings and plant equipment of gas manufacturing plants ranging from $10,912,727.00 to $11,627,911.00, depending upon whether historical cost or the so-called present fair value is considered (Ex. 61).

[fol. 670] Affiant further states that the rate base for the plaintiff's properties found by the Commission to be proper was $10,912,727.00 too high and therefore should have been $49,791,273.00 instead of $60,704,000.00, as set forth in Commission's Decision No. 23102, Case 2747.

Affiant further states that had the Commission excluded the value of the lands, buildings and equipment of the gas manufacturing and by-products plants, as should have been done, from the rate base of the plaintiff's property used and useful in the service of the public making a proper amortization allowance in operating expense to return to the plaintiff the capital invested in said land, buildings and equipment that is no longer useful in the service of natural gas, the 7.7% return as found by the Commission would have been automatically increased to in excess of 9%.

Affiant further states that, on the basis of fair value as found by the Commission ($65,500,000.00), but not accepted as proper, with proper deduction therefrom of $11,627,911.00 representing plaintiff's investment in gas manufacturing and producing properties, the 7% return shown by the Commission would have automatically been increased to a figure approximating 10%.

Affiant has consulted various investment bankers and bank officials in Los Angeles, California, within the past few days, and is informed by them that, due to the present economic condition of the banking business, brought on by world-wide conditions, there is an abundance of money available for the financing of worthy enterprises and that a public utility comparable to the Los Angeles Gas and Electric Corporation could obtain money, upon a proper [fol. 671] bond issue, at the rate of 4½ to 5 per cent per annum, said loan to run thirty years to cost the Company a brokerage or discount of not to exceed one and a half points. Affiant is informed and believes that such a loan could be obtained from a great number of investment bankers and financial houses, not only in the City of Los Angeles, but throughout the United States, and affiant's investigation and study of the financing of public utility companies in the City of Los Angeles and vicinity reveals

that the demand for investment funds by public utilities in Los Angeles has never been in excess of the supply available in that territory, but, on the contrary, the stock and bond offerings of public utility companies of a kind comparable to the Los Angeles Gas & Electric Corporation (and of that Corporation itself) have always been eagerly purchased by bond houses and the investing public. The last bond offering of the Los Angeles Gas & Electric Corporation, as shown by their own Exhibit 37, introduced in evidence at the hearing before the Railroad Commission in this matter, was in the sum of $10,000,000, at the rate of 5%, issued in February, 1927, and maturing in September, 1961. The Company received for these bonds the sum of $9,469,713. Said Exhibit 37 (page 3) shows that in 1899 and 1902 the Company's bond issues were on a 5% basis; in 1920 and 1921 they were on a 7% basis; in 1922, 1923 and 1924 they were on a 6% basis; in 1925 and 1926 they were on a 5½% basis and in 1927 on a 5% basis. Said Exhibit 37 (p. 5) shows the Company's claim to be 6.76% as the weighted average cost of preferred stock money from 1921-1930. Said table in said exhibit and the affi- [fol. 672] davits of V. H. Rossetti and Paul A. Sinsheimer, on file herein, do not reflect the true cost to the Company of preferred stock money at this time, due to a change in world-wide conditions, particularly brought about by the constantly increasing rise in the purchasing power of the dollar since the close of the World War, which has automatically reduced interest rates, or cost of money. The 6% preferred stock of the said Los Angeles Gas & Electric Corporation is now quoted on the stock exchanges at a premium and reached a 1930 high of 108.

Los Angeles Gas & Electric Corporation has issued from 1909 to date $20,000,000 of common stock. Exhibit 6, introduced in evidence before the Commission, and the other testimony before the Commission consisting of the Company's applications to issue said common stock, and other documentary evidence, show that the Company has had no expense whatsoever in procuring money through the issuance of its common stock. Said Exhibit 6 also shows $5,500,000 of this common stock was issued as a stock dividend; in 1929 the earnings on all common stock was 23.33% and the dividends paid—17%. The exhibit also shows that

all common stock is owned by Pacific Lighting Corporation. Exhibit 37, filed by the Corporation estimates that the cost of the common stock to the Company was 8½%, but there was further testimony that this was not an actual cost but was based upon computation as to what comparable companies would have to pay. The decision of the Commission that "the present actual annual cost to the Company [fol. 673] for its bond and preferred stock money is 6.17%" is, in the opinion of affiant, too high, and present actual annual cost to the Company for its said bond and preferred stock money does not exceed 5.50%. The present annual cost for its common stock money is nothing.

The going concern value claimed by the Company is $9,228,667. Affiant states that it was in evidence that the only franchise claimed by the Company to furnish gas to its consumers living in the City of Los Angeles was based upon the State Constitutional grant. Reference is here made to Article XI, Section 19, of the Constitution of the State of California as originally enacted in 1879 and amended in 1885 and 1911.

The Company, however, must necessarily claim under the original section, which limits its service in the City of Los Angeles in the distribution of gas to "gaslight or other illuminating light", for the reason that affiant is informed and believes that the 1911 amendment is not applicable in any way to the Company's claim of franchise.

Upon this further ground, affiant alleges that no "Going Concern Value" in any amount should have been allowed by the said Commission in its decision and order, for the reason that the Company's business being limited to the distribution of gas for illuminating purposes only such limitation would so seriously affect its income, if not its very existence as to negative completely any value based on that item.

[fol. 674] Reply Affidavit of Addison B. Day

The reply affidavit of Addison B. Day, filed on behalf of plaintiff Los Angeles Gas and Electric Corporation, condensed and reduced to narrative form is as follows:

Affiant stated his education, qualifications and experience substantially as set forth in the condensed statement of his testimony before the Commission, heretofore set forth;

Affiant has read the affidavit of Claude C. Brown, an Engineer of the Railroad Commission of the State of California, filed herein, wherein it is stated that the gas manufacturing plant of plaintiff is now, and since March 13, 1928, has been, property not used or useful in the conduct of plaintiff's business. The gas manufacturing plant is used and useful in the service of the public; if the plaintiff did not have a manufacturing plant of at least the capacity of the one it now possesses, affiant would recommend that immediate steps be taken to build one. Experience in the past has taught the absolute necessity, both from the safety of plaintiff's own business and the safeguarding of its consumers, of having a manufacturing plant irrespective of the apparent present adequacy of a natural gas supply.

Plaintiff's business consists in supplying of gas for cooking, heating and industrial uses to more than 380,000 consumers. The demand for gas called for by the consumers fluctuates greatly, not only with the season of the year, but from day to day within the same season. For example, the company sold 2,397,495 m. c. f. in January, 1930, and but 803,846 m. c. f. in August 1929. It had a peak sendout of [fol. 675] 136,205 m. c. f. on January 11, 1930, with a sendout of 25,918 m. c. f. on July 31, 1929. On January 16, 1930, five days after the peak sendout of 136,205 m. c. f., the sendout dropped to 77,815 m. c. f. Gas resources and equipment must be maintained in constant readiness, adequate to care for the highest peak demands, even though that peak may occur only once a year.

In 1920 and 1921 there were severe gas shortages, which necessitated immediate enlargement of the gas manufacturing plant of the company. Work in the construction of enlarged facilities was in progress almost continuously from 1920 to 1924. These plants were constructed with the knowledge and assistance of the Railroad Commission, which approved and passed upon the plans for construction, and made various suggestions in connection with the construction of the plant. The gas generating plant was constructed at an aggregate cost of approximately $10,000,000.00 as follows:

Unit	Capacity per day	When const.
1	30,000 m. c. f.	Finished 1921
2	28,500 "	" 1920
3	40,000 "	" 1924

In order to provide for additional manufacturing capacity, the plaintiff in 1926 purchased 119 acres of land in the Bandini District, at a total cost of more than $900,000. Plaintiff still owns that property and is keeping it for the specific purpose of constructing thereon a manufacturing plant when necessity requires.

The original utilization of the natural gas supply first brought to this City from the Midway fields, in Kern County, was made possible because of the fact that plaintiff then had in operation its artificial gas generating plant. [fol. 676] The first available natural gas supply was entirely inadequate to meet all of the demands for gas and with this situation the oil gas and natural gas were mixed in about equal proportions, producing a greatly improved fuel, which was supplied to plaintiff's customers at a thermal or true rate amout 25% lower than that charged for oil gas just prior to the use of the new natural gas supply. It was, in fact, the existence of the gas manufacturing plants in this City that made economically and practically possible the introduction and use of natural gas in Los Angeles.

Natural gas as supplied averages in excess of 1100 British thermal heat units per cubic foot, whereas manufactured oil gas runs only about half this value. With the utilization of increasing amounts of natural gas, plaintiff's customers have continually received a higher quality of gas than previously. Rates have been adjusted from time to time, with the result that the actual fuel cost to the consumers has continuously declined over a long period of years, as is shown by the following figures:

Cost per Million British Thermal Units

1910	$1.28
(Natural Gas Introduced)	
1915	.83
1920	.91*
1925	.80
1929	.77

* War period and shortage of natural gas.

It is evident from the above figures that present consumers are receiving the benefits of low rates, which accrue from the use of the natural gas supply safeguarded by the gas manufacturing plant for standby service.

The territory served by the Company is particularly depended upon an adequate and dependable supply of gas, as practically every residence and many of the larger [fol. 677] buildings and hospitals are constructed and equipped so that no fuel other than gas can be used; and if the gas supply were to fail, even for a few hours, great hardship and possible loss of life would result.

Natural gas comes from various points, some of them at a considerable distance from Los Angeles. A substantial portion of the supply is received from the Kettleman Hills, more than two hundred miles distant from Los Angeles, while other large sources of supply are the Midway and Elk Hills fields in Kern County, and other fields in Ventura and Santa Barbara Counties, ranging from 75 to 125 miles distant from Los Angeles.

There is a constant hazard of floods or washouts throughout the winter months in the territory through which the natural gas pipe lines are laid. There is also the hazard of earthquake, which might result in the breaking of natural gas lines in many places, and make their repair a matter of considerable time. A break or interruption in any one of the major pipelines supplying the requirements of plaintiff would leave an insufficient supply of gas to meet its requirements during periods of peak load, since the remaining pipelines have not sufficient capacity to meet such peak requirements. As a result the use of the manufacturing plant would, so long as such break or interruption continued, be necessary. By the use of the manufacturing plant to supply deficiencies that might result from failure of one or more of the major pipelines, plaintiff would be enabled to continue to maintain adequate service, as it is feasible to use a mixture of natural and manufactured gas in the proportions that [fol. 678] would be necessary under such cirsumstances, without readjustment of appliances, for the period required to repair such break or interruption. Most of the major pipelines, and particularly those leading from the Kettleman Hills, Midway and Elk Hills Districts, are laid in mountainous territory and are peculiarly subject to the

danger of flood, washout or shifting soil. While such failure may occur at any time, the danger of interruption is greatest during the winter season, at a time when the demands for gas are greatest. An instance of the necessity for such manufacturing plant may be noted in March, 1928, at the time of the Santa Clara River flood and breaking of the St. Francis dam. When this flood occurred the gas manufacturing plant, pursuant to the Company's established policy, was then in readiness for operation. Manufacture of gas was immediately commenced and the manufactured gas was put into the holders. Owing to a provident continued spell of warm weather, it was necessary to manufacture gas for but a short period. However, had the flood occurred during a time of peak load, the use of the entire plant would have been necessary for approximately one week, which was the time required to repair the natural gas lines which had been washed out.

Although natural gas has been available in Los Angeles since 1913, as noted above, severe shortages were experienced in 1920 and 1921. The available supply of natural gas from oil fields in the Los Angeles Basin has become wholly inadequate to meet plaintiff's requirements although only a year ago substantial quantities of gas were being wasted in Santa Fe Springs and Signal Hill. Contrary to the testimony of City's witness, Mr. Dodge, in this case before the Railroad Commission, the supply now available from these fields is only about one-third of that [fol. 679] estimated by him as the average for the year 1931. It has, therefore, become necessary for plaintiff to obtain an increasing proportion of the gas sold by it from sources as far away as Kettleman Hills, Midway and Elk Hills, a distance of over 200 miles.

Because of the rapidly diminishing supply of gas available from fields in the Los Angeles basin, and the increasing dependence of plaintiff upon gas obtained from the more distant fields, in affiant's opinion, it will probably be necessary during the early months of 1931 to use gas manufactured in plaintiff's gas manufacturing plant to meet the peak requirements, particularly if there occurs low temperatures such as have been experienced during the past five years, and if such requirements should remain at or near the maximum for three days or more at any one time. The capacity of the pipelines from the more distant fields is

insufficient to enable plaintiff to obtain therefrom the amount of gas required to meet such peak demands. It will, therefore, be necessary in such event to manufacture gas and mix the same with natural gas, in order to meet such peak requirements under the conditions stated. Construction of an additional pipeline from the Kettleman Hills field, which is the most feasible source of supply for additional quantities of natural gas, with necessary compressor plant, would cost not less than $6,500,000, an amount substantially equal to plaintiff's investment in the gas manufacturing plant now owned and used by it, and such pipeline would be required at this time only to insure an adequate supply of gas for peak requirements, a function which can be and is performed by plaintiff's gas manufacturing plant. Moreover, such pipeline would traverse substantially the same territory, and be subject to the same hazards, as the existing pipelines from those [fol. 680] fields.

If there should be even a momentary interruption in the gas supply to plaintiff's customers, there would be imminent danger of many serious explosions because of the fact that pilot lights on furnaces, water heaters and stoves would be extinguished without the knowledge of the gas users, and upon the re-establishment of the supply, the gas would escape from open burners and thereby create the conditions necessary for explosions when attempt was made to re-light the burners, or when the escaping gas might communicate with any fire or flame.

If the plaintiff were unable to supply all of its customers with gas, even for a short period, it would lose permanently a large number of its customers who would turn to the use of electricity or oil for heating purposes. The effect on the plaintiff of an inadequate supply is demonstrated by the fact that a number of years ago a competitive company was organized solely because the plaintiff's predecessor was unable to provide an adequate supply of gas.

The manufacturing plant is kept in perfect operating condition and is not only the largest oil-gas manufacturing plant in the United States, but also, in affiant's opinion, one of the most efficient. It is kept ready for immediate operation, and during the winter months it is kept heated so that gas can be manufactured with a minimum of delay.

Affiant has read the affidavit of A. V. Guillou, an Engineer of the Railroad Commission of the State of California, filed herein, where it is stated that the amounts paid by plaintiff to Pacific Lighting Corporation are not proper items of operating expense for which plaintiff should be reimbursed out of the rates for gas sold by it, and in reply thereto [fol. 681] affiant says, the payments to said Pacific Lighting Corporation are made under and by virtue of a contract made on or before January 1, 1929; said contract was negotiated at the suggestion of affiant and authorized by the Board of Directors of plaintiff. By virtue of said contract, plaintiff is entitled to and receives from said Pacific Lighting Corporation the following services:

1. Executive service and advice covering the entire scope of plaintiff's operations.

2. Auditing services.

3. Secretarial services.

4. Legal services.

5. Dealings with mortgage trustees on sinking fund and other matters in connection with the outstanding mortgages on plaintiff's property.

The services so received by plaintiff pursuant to said contract are of great value and in affiant's opinion worth in excess of the yearly compensation of $85,000.00 charged to plaintiff's Gas Department in the year 1930. As a result of such contract and services, plaintiff has been enabled to reduce its executive personnel and obtain a more efficient and economical operation than would be possible without the same, and in this connection affiant says that the general expense of plaintiff, which includes compensation paid said Pacific Lighting Corporation, is much below the average of comparable utilities in the State of California and at representative points throughout the United States.

If the services of said Pacific Lighting Corporation rendered pursuant to said contract were not available to plaintiff, it would be necessary for plaintiff to make other arrangements to have similar service performed through [fol. 682] increased executive personnel. or otherwise, and the operating expenses of plaintiff would be increased by a sum exceeding $85,000.00 per annum.

[fol. 683] REPLY AFFIDAVIT OF H. L. MASSER

The reply affidavit of H. L. Masser, filed on behalf of plaintiff Los Angeles Gas and Electric Corporation, condensed and reduced to narrative form, is as follows:

The following statement appearing in the affidavit of Roy A. Wehe:

"That the depreciation expenses on the general items under general capital of (1) B. & C. Shop and Stores, (2) Garage and Stable, and (3) Tools and Miscellaneous, are reflected in operating expenses and in Additions and Betterments to capital, under the accounting practice followed by plaintiff, and that to include them again in computing depreciation expense would result in duplication. In this respect, affiant states that such duplications were apparently inadvertently made by this Commission in their two previous decisions (December 31, 1926, 29 C. R. C. 164, and November 13, 1928, 32 C. R. C. 379),"

is incorrect. Investigation shows that Mr. Wehe was correct with reference to the Commission's Decision of December 31, 1926, but that such error was subsequently corrected and did not recur in the Commission's Decision No. 20448, dated November 13, 1928.

By the figures in Table I of his affidavit, Mr. Wehe sets forth in detail his calculations on the Sinking Fund Basis of the annual depreciation charges on the historical value of plaintiff's properties. Using the same life tables, it is but a simple direct mathematical calculation to compute the annual depreciation charges on a Straight Line basis on the Commission's estimated "Fair Value" or the Depreciated Value of plaintiff's properties. Using the Commission's "Fair Value" Rate Base of $65,500,000, it is found that the depreciable property included therein amounts to [fol. 684] $58,402,891, and that with the Life Table shown in Table I of Mr. Wehe's affidavit, the annual charges for Straight Line depreciation which must be applied with the depreciated rate base, would amount to $2,344,744.

The following tabulation presents a comparison of net earnings and rate of return, using revenues and expenses as estimated by affiant and as estimated by Mr. Guillou in his affidavit, but using Straight Line Depreciation Annuity, for the twelve months' period ended October 31, 1930:

Los Angeles Gas and Electric Corporation

Results of Operations, Year Ending October 31, 1930, Gas Department, Substituting Straight-line Depreciation Annuity for the Sinking-fund Annuity

	Under prescribed rates	
	As shown in H. L. Masser's affidavit, p. 7	As claimed by A. V. Guillou's affidavit, p. 35
Gross Revenue	$14,352,450.02	$14,856,000.00
Total Operating Charge	10,314,672.01	10,014,000.00
Net for Return	$4,037,778.01	$4,842,000.00
Depreciation on Sinking Fund Basis	1,300,000.00	990,000.00
Net for depreciation and return	$5,337,778.01	$5,832,000.00
Depreciation on Straight Line basis with Life Tables used by Mr. Wehe in his affidavit (pp. 18-19):		
(a) On plaintiff's Reproduction Cost New	2,830,487.00(a)	
(b) On Commission's "Fair Value" (using Reproduction Cost New with June 15, 1930, Pricing basis and 6% Overhead charges)		(b)2,344,744.00
Balance	$2,507,291.01	$3,487,256.00
Balance	$2,507,291.01	$3,487,256.00
Adjustment for Federal Taxes at 12%	183,658.44	162,569.28
Net for Return	$2,690,949.45	$3,649,825.28
Equivalent to a return of 8% on	$33,636,868.00	$45,622,816.00
" " " " 7½% on	35,879,326.00	48,664,337.00
" " " " 7% on	38,442,135.00	52,140,361.00

[fol. 685] Mr. Guillou in his affidavit says that "in his opinion the actual revenues and expenses of the Corporation during the twelve months ending October 31, 1930, adjusted as aforesaid to reflect the effects of normal temperatures, and to eliminate unusual and nonrecurring expenses, constitute a substantially accurate means of testing the reasonableness and adequacy of rates for the future." It is to be noted that by this method of adjustment, Mr. Guillou does not use any actual operating figures, but adjusts all items of sales, revenues and expenses to an assumed normal basis. The adjustments of sales and revenues made by Mr. Guillou are based upon the monthly temperatures as reported by the United States Weather Bureau during the past 22 years, as a basis of normal temperatures.

Affiant has analyzed the monthly mean temperatures as shown by the Weather Bureau at Los Angeles from August 1, 1908, to December 1, 1930. For each of the heating months

(from October to May, inclusive) the average mean temperatures for the 22-year period were lower than the corresponding average temperatures for the last ten years, or the average temperatures for the last eight years, or the average temperatures for the last five years. In general, the average monthly mean temperatures were progressively higher going from the ten-year period to the eight-year period, to the five-year period. The monthly mean temperatures, as reported by the United States Weather Bureau, and the "averages" for each of the periods mentioned, are shown on the following table:

Los Angeles Gas and Electric Corporation

Monthly Mean Temperature, August, 1908, to December, 1930, Inclusive, U. S. Weather Bureau at Station Located in Central Building, 6th and Main Streets, Los Angeles

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual avg. mean
1908	....	....	....	....	....	....	....	70.1	69.8	64.6	59.4	55.2	....
1909	54.6	54.0	55.0	60.6	60.3	65.6	67.7	70.7	68.6	66.3	59.9	53.9	61.4
1910	53.7	55.6	59.0	63.5	63.0	64.4	70.2	70.1	70.5	67.2	60.3	59.7	63.1
1911	56.9	52.5	58.8	58.4	61.4	63.8	69.4	70.5	68.1	66.4	64.1	55.4	62.1
1912	59.0	59.8	54.3	56.4	62.9	65.4	68.8	69.3	68.7	65.2	63.1	56.7	62.6
1913	52.1	53.8	57.7	59.8	60.9	64.3	70.5	71.9	73.6	67.9	61.8	55.4	62.5
1914	56.9	59.4	63.1	62.9	60.3	64.9	66.9	68.1	67.9	68.7	67.0	53.5	63.3
1915	55.9	54.7	61.4	60.4	61.4	66.7	70.0	72.6	68.0	65.2	61.7	57.3	62.9
1916	50.7	58.7	62.0	62.4	61.3	63.6	66.8	68.6	65.1	59.7	59.4	52.6	60.9
1917	51.2	55.3	56.7	57.9	58.7	68.8	72.3	70.0	70.8	68.2	63.6	62.8	63.0
1918	55.7	56.0	59.1	61.7	61.2	69.7	69.9	71.7	72.2	71.0	60.8	57.2	63.9
1919	60.2	53.7	55.7	60.9	61.6	68.7	61.0	70.2	68.3	63.8	61.5	58.9	62.9
1920	56.6	57.6	56.8	58.8	62.1	65.8	71.2	72.4	68.4	63.2	60.1	55.8	62.4
1921	54.1	57.4	59.4	59.0	58.9	65.8	71.7	70.6	69.3	66.7	63.2	60.2	63.0
1922	53.8	54.0	55.6	57.6	62.6	67.7	69.5	73.4	73.1	65.4	59.8	58.3	62.5
1923	58.1	56.6	61.0	58.4	64.6	63.6	70.0	69.6	70.4	66.8	66.4	58.7	63.7
1924	58.5	62.6	56.4	60.4	64.8	68.2	69.4	69.1	70.0	62.6	64.1	55.4	63.5
1925	57.6	57.7	58.8	60.0	62.8	67.4	72.2	69.9	69.1	65.1	62.4	63.2	63.9
1926	59.4	61.2	63.0	63.4	65.4	67.2	69.8	72.6	68.0	67.6	67.0	56.1	65.1
1927	57.2	56.6	57.4	59.5	63.8	65.0	72.1	70.4	68.4	67.4	65.8	56.2	63.3
1928	61.4	60.0	60.6	62.2	64.2	65.4	69.2	70.1	71.0	63.7	63.2	58.8	64.2
1929	55.2	54.4	57.2	57.4	65.0	68.6	72.2	75.8	70.2	70.2	65.8	63.7	64.6
1930	56.0	59.4	60.8	63.6	61.8	67.6	72.8	73.8	67.9	68.7	66.2	60.6*	64.9
Avg. 1908-30, Inc...	56.1	56.9	58.6	60.2	62.2	66.3	70.2	70.9	69.5	66.2	63.0	57.6	63.1
Avg. 1921-30, Inc...	57.1	58.0	59.0	60.2	63.4	66.7	70.9	71.5	69.7	66.4	64.4	59.1	63.9
Avg. 1923-30, Inc...	57.9	58.6	59.4	60.6	64.1	66.6	71.0	71.4	69.4	66.5	65.1	59.1	64.1
Avg. 1926-30, Inc...	57.8	58.3	59.8	61.2	64.0	66.8	71.2	72.5	69.1	67.5	65.6	59.1	64.4

* Estimated.

[fol. 687] In view of these facts, it is affiant's conclusion that an estimate for the future based upon the use of 22-year average temperatures would lead to grossly erroneous results, and it is affiant's opinion that an estimate of the volume of gas sales for the immediate future, based upon the average temperatures which have obtained for the last five years, would be more nearly accurate and more reliable than an estimate based upon the average temperatures during the past 20 or more years.

The temperatures during the twelve months' period ended October 31, 1930, the period for which revenues and expenses were shown and estimated in affiant's affidavit filed December 23, 1930, approximate closely the average temperatures which obtained during the past five years. The following table shows the actual sales, by months, during said period, and the estimated sales adjusted to the average temperatures of the past five years:

Los Angeles Gas and Electric Corporation

Temperature Corrected

Domestic Gas Sales and Revenue Corrected to Basis of Five-year Average Temperature

	Temp. corr. M.—B.t.u. sales per meter	Wtd. avg. B.t.u. quality	Temp. corr. cu. ft. sales per meter	Weighted average ind. act. meters	Total temperature corrected M.c.f. sales	Revenue under present rates	
						Avg. rate	Domestic revenue
1929.							
Nov.	4,711.8	1,109.1	4,248.3	349,788	1,486,004.4	$.8650	$1,285,393.81
Dec.	6,263.0	1,115.9	5,612.5	353,420	1,983,569.8	.8295	1,645,371.15
1930.							
Jan.	7,115.1	1,113.9	6,387.6	356,506	2,277,217.7	.8180	1,862,764.08
Feb.	6,132.4	1,114.9	5,500.4	358,217	1,970,336.8	.8315	1,638,335.05
Mar.	6,294.0	1,118.0	5,629.7	357,776	2,014,171.5	.8290	1,669,748.17
Apr.	4,754.7	1,115.4	4,262.8	355,813	1,516,759.7	.8645	1,311,238.76
May	3,981.9	1,119.6	3,556.5	353,206	1,256,177.1	.8945	1,123,650.42
June	3,191.9	1,109.9	2,875.8	350,134	1,006,915.4	.9345	940,962.44
July	2,927.2	1,125.3	2,601.3	347,806	904,747.7	.9545	863,581.68
Aug.	2,797.2	1,119.2	2,499.3	346,621	866,309.9	.9640	835,122.74
Sept.	2,968.4	1,099.9	2,698.8	347,686	938,335.0	.9470	888,603.25
Oct.	3,703.4	1,096.8	3,376.5	350,938	1,184,942.2	.9035	1,070,595.28
Total	54,841.0	.....	49,249.5	.....	17,405,487.2	.....	$15,135,366.83
Temp. Corrected Revenue Less 9%	.....	.....	.....	.....	.....	.....	13,773,183.79
Difference	.....	.....	.....	.....	.....	.....	$1,362,183.04
Actual Sales	54,184.9	.....	48,660.0	.....	17,196,127.9	.....	$14,955,448.57
Actual Revenue Less 9%	.....	.....	.....	.....	.....	.....	13,609,458.23
Difference	.....	.....	.....	.....	.....	.....	$1,345,990.34
Percent Diff. Temp. Corr. and Actual	−1.20	.....	−1.20	.....	−1.20	.....	−1.19

[fol. 689] It will be noted that the actual sales and revenue, as compared to the estimated sales and revenue based on average temperatures of the past five years are:

	Sales m. c. f.	Revenue
5-year temperature adjusted sales	17,405,487	$13,773,183
For actual sales	17,196,128	13,609,458
Difference	1.20%	

The revenue figure of $13,609,458 is for actual sales adjusted to the rates proposed by the Commission, and is the same as set forth by affiant in his affidavit filed December 23rd, 1930, and shown by Mr. Guillou in his affidavit. The comparable figure of $13,773,183 is revenue which it is estimated would have been received from sales adjusted to the average temperature conditions which have existed during the past five years. This latter figure may be compared with Mr. Guillou's figure of $14,113,000, which is his estimate of revenue that plaintiff would have received from the sale of domestic and commercial gas during the twelve months' period ended October 31, 1930, under rates proposed by the Commission, had the sales been adjusted to the basis of average temperatures of the past twenty-two years (which average temperature is lower than has actually occurred during the last eight years). Mr. Guillou's estimated revenue of $14,113,000, under this twenty-two year basis of temperature corrected sales, is $339,817 more for this period than the revenue of $13,773,183 as estimated by affiant upon the basis of temperature conditions, which have actually obtained year after year during the past five to eight years.

If during the past eight years plaintiff's revenues had [fol. 690] been predicated on the basis of twenty-two average temperatures, and rates so fixed as to yield a fair return upon the fair value of the property for that period using the twenty-two year average temperature conditions, plaintiff would have failed to earn in each and every one of these eight years the fair return to which it was entitled.

Mr. Guillou in his estimate of operating expenses, has eliminated certain operating costs which were actually incurred by plaintiff during the period considered, alleging that such costs were unreasonable or non-recurring. There was deducted by Mr. Guillou as non-recurring costs the sum of $70,000 from "Regulatory Commission Expense" incurred as the result of the present rate, proceeding before

the Commission, and the sum of $50,000 from the amount expended by plaintiff during the twelve months ended October 31, 1930, in preparing an inventory and appraisal of its properties. Affiant states that such costs were properly and reasonably incurred in the conduct of its operations and that costs of substantially equal amount will probably be incurred during the ensuing year. During the period since July, 1925, plaintiff has been before the Railroad Commission in rate fixing proceedings a total of 44 months, or two-thirds of the elapsed time, and it is probable that plaintiff's expenses for rate fixing purposes will in future be greater rather than less than those experienced during the past year. In addition to the above deductions for Regulatory expense, Mr. Guillou has deducted from legal expense, as a non-recurring item, the sum of $80,000 expended by plaintiff's gas department in defending an electric franchise suit [fol. 691] brought by the City of Los Angeles. The action in which such expenses were incurred is not yet terminated. Affiant believes that such expense was reasonable and that such expense will continue for the next year or more, and that the amount of such costs would be subject to material increase in the event of a like suit by the City of Los Angeles affecting plaintiff's franchise rights to use the City streets in its gas business.

[fol. 692] Reply Affidavit of A. J. Luick

The reply affidavit of A. J. Luick, filed on behalf of plaintiff Los Angeles Gas and Electric Corporation, condensed and reduced to narrative form, is as follows:

Affiant stated his education, qualifications and experience substantially as set forth in the condensed statement of his testimony before the Commission, heretofore set forth.

Affiant has read the affidavit of Mr. P. E. Dufour wherein it is stated that "The present trend of material and labor cost is downward; that due to the present acute unemployment situation the wages paid the class of labor required for this type of construction is now lower and that due to the large number of applicants for employment from which capable men may be selected, the efficiency of labor is

higher, tending to materially decrease the labor costs." Affiant keeps currently informed as to price levels of labor and material required for the construction and operation of gas plants, and to changes in the level of such prices, and has done so with respect to conditions in and about Los Angeles, and has given consideration to the variations in price levels during the year 1930. In affiant's opinion the variations in price levels during the year 1930 do not constitute a permanent change in price levels and prices will for a reasonable period in the future be on a higher level than existed on December 15, 1930, and will, on the average over the next few years, approximate the prices used by him in his estimate of reproduction cost new, reflected [fol. 693] in the value of $95,767,351 shown in the affidavit filed herein on December 23, 1930.

It is true that as of December 15, 1930, prices in certain commodities have declined from the 1929 level but that in a large number of commodities there has been no change in prices and in some instances prices have increased. There has been no change in prices for gas regulators, gas compressors, pumps, fire brick, genuine wrought iron pipe, plaintiff's labor and the wages for building trades labor. There was a reduction in the price of wrought steel black pipe, cast iron pipe, fittings, valves, certain sizes of gas meters, cement and some other materials of the kind and character used in the construction of plaintiff's property from the 1929 level. Affiant has applied to his figure of Reproduction Cost New as of January 1, 1930, the price variations which have taken place, and finds that while there has been a change in the prices for certain commodities, the decline amounts to not more than 2% of the value of the physical property as a whole, as of December 15, 1930.

As to labor which constitutes a large proportion of the physical property, there has been no change in prices paid by plaintiff for the labor employed by it, nor has there been any change in the scale of wages for building trades labor. While it might be possible to employ labor temporarily at less than the present accepted scale of wages, over the period necessary for the reconstruction of this property the average wage scale would equal the figures

used by affiant in his appraisal. It is affiant's opinion, which accords with the consensus of opinion of engineers [fol. 694] and economists generally, that the present scale of wages generally should not be reduced by reason of the present economic condition.

In affiant's opinion prices for the immediate future and for several years to come will be on the average higher than the present level and approximately at the 1929 level. In the case of steel and cement this recovery is already taking place.

Affiant is familiar with plaintiff's manufacturing and distributing plants and similar plants throughout the United States, and based upon his knowledge and experience states that the plants are adequate and that they are modern and up to date, comparing favorably with other gas plants of this character, and that there is no inadequacy, obsolescence or impairment of value due to changes in the art, other than as reflected in the physical and functional deterioration, found by affiant's inspection of plaintiff's property, in an amount not exceeding $3,470,326.

Affiant has also read the affidavit of Mr. Roy A. Wehe with reference to a reasonable depreciation expense allowance and his statement therein that such allowance for the year 1930 should be $990,000 on a sinking fund basis, applying to an undepreciated rate base. If a depreciated rate base is used in arriving at the fair value, then a depreciation annuity calculated on a straight line basis must be used in determining operating expense to arrive at the Net Revenue for a return.

Affiant has made a calculation of the annuity on the straight line basis using "fair value" found by the Commission as of June 15, 1930, and using the estimated lives [fol. 695] as set out by Mr. Wehe. On this basis the depreciation annuity would be not less than $2,344,744 per year, corresponding to the $990,000 per year sinking fund annuity used by Mr. Wehe, and at least this amount should be included by plaintiff in its operating expenses if a depreciated rate base is used. Affiant further states that a similar annuity on affiant's Reproduction Cost New would amount to $2,830,487, corresponding to the $1,266,273 used by Mr. Masser.

Affiant has read the affidavit of Claude C. Brown filed herein on behalf of defendants wherein it is stated that the

gas generating equipment in plaintiff's gas manufacturing plants is not now and since March 13, 1928, has not been, used and useful in the conduct of plaintiff's public utility gas business, and that the value of said portions of said plants as included in affiant's estimate of reproduction cost of plaintiff's properties is $7,105,900. In affiant's opinion all of said plants and facilities are and for many years to come will be used and useful in the conduct of plaintiff's said business. Affiant has made a calculation of the sum necessary to amortize said facilities over a 10-year period, should the same be held to be no longer used and useful property. The present fair value of the standby gas manufacturing plant of plaintiff is $10,888,192, and the annual charge for such amortization, in excess of the amounts now charged by plaintiff toward depreciation thereof, would be approximately $600,000.

[fols. 696 & 697] ORDER SETTLING STATEMENT OF EVIDENCE

The foregoing statement of evidence is a true, complete and properly prepared statement of the substance of all of the testimony and evidence introduced and admitted on the trial of the above-entitled cause in the United States District Court for the Southern District of California, Central Division, all parts not essential to the questions presented by the appeal being omitted, and the same is hereby settled, allowed and approved as the Statement of Evidence on appeal from the final decree of said court.

Dated September 14, 1932.

Wm. P. James, District Judge.

[fols. 698-703] Bond on appeal for $200,000, approved and filed May 18, 1932, omitted in printing.

[fol. 704] IN UNITED STATES DISTRICT COURT

ORDER ENLARGING TIME TO PREPARE STATEMENT OF EVIDENCE ON APPEAL

Good cause appearing therefor, it is hereby ordered that the plaintiff in the above-entitled suit may have, and it is

hereby allowed, to and including August 1st, 1932, within which to prepare and lodge in the Clerk's office a statement of the evidence and file with the Clerk a præcipe, in accordance with Equity Rule 75, upon appeal from the decree of the above-named Court made and entered herein on the 18th day of May, 1932.

Dated June 2, 1932.

Wm. P. James, District Judge.

[fol. 705] IN UNITED STATES DISTRICT COURT

ORDER ENLARGING TIME TO PREPARE STATEMENT OF EVIDENCE ON APPEAL

Good cause appearing,

It is hereby ordered that the defendants in the above entitled suit may have, and are hereby allowed, to and including Sept. 15, 1932, within which to file, in accordance with Equity Rule 75, a præcipe indicating additional portions of the record to be incorporated in the transcript on appeal, together with objections or amendments to the statement of evidence lodged by plaintiff.

Dated July 27, 1932.

Wm. P. James, District Judge.

[fol. 706] IN UNITED STATES DISTRICT COURT

[Title omitted]

PRÆCIPE FOR TRANSCRIPT OF RECORD

To the Clerk of the above-entitled Court:

You will please prepare Transcript of Record in this cause to be filed in the office of the Clerk of the Supreme Court of the United States for use on appeal to the Supreme Court of the United States, and you will please incorporate in such Transcript the following portions of the record in this cause:

(1) Bill of Complaint.
(2) Answer of Defendant.
(3) Answer of Intervener, City of Los Angeles.

(4) Interlocutory Injunction.
(5) Opinion, James, J.
(6) Concurring Opinion, Wilbur, J.
(7) Plaintiff's Objections to Proposed Findings of Fact and Conclusions of Law and Request for Findings.
(8) Motion to Continue Injunction Pending Appeal.
[fol. 707] (9) Affidavit of W. E. Houghton in Support of Motion for a Stay Pending Appeal.
(10) Final Decree.
(11) Order Continuing Injunction Pending Appeal.
(12) Assignment of Errors.
(13) Petition for Appeal.
(14) Order Allowing Appeal.
(15) Narrative Statement of the Evidence.
(16) Copy of Bond on Appeal and for Stay.
(17) Order Enlarging Time to Prepare Transcript and to Docket Appeal.
(18) Præcipe for Transcript of Record.

Said Transcript to be prepared as required by law and the rules of the Supreme Court of the United States.

The original Citation, with the acknowledgment of service thereof by defendants and intervener, should accompany the Transcript.

Dated July 27, 1932.

Herman Phleger, Paul Overton, Solicitors for Plaintiff.

[fol. 708] Due service and receipt of copy of within Præcipe for Transcript of Record is hereby acknowledged this 27th day of July, 1932.

Arthur T. George, Ira H. Rowell, Roderick B. Cassidy.

Due service and receipt of copy of within Præcipe for Transcript of Record is hereby acknowledged this 27th day of July, 1932.

Erwin P. Werner, City Attorney; Frederick Von Schrader, Assistant City Attorney, by Joseph Watson, Dpty. City Atty., Solicitors for Intervenor, City of Los Angeles.

[fol. 709] IN UNITED STATES DISTRICT COURT

[Title omitted]

PRÆCIPE OF APPELLEE FOR TRANSCRIPT OF RECORD

To the Clerk of the above-entitled Court:

The above named defendants and appellees hereby file their præcipe and request that the following documents and papers, in addition to those designated in præcipe of plaintiff and appellant, be incorporated in the Transcript of Record in this case on appeal to the Supreme Court of the United States.

1. Bond on Interlocutory Injunction.

2. Stipulation of Submission, consisting of Letter of June 2, 1931, from Arthur T. George, Attorney for Defendants, to Wm. P. James, District Judge, and Letter of June 1, 1931, from Herman Phleger and Paul Overton, Attorneys for Plaintiff, to Arthur T. George, Attorney or Defendants, copy of which letter accompanied the letter of June 2, 1931, first above mentioned addressed to Judge James.

3. Order of June 2, 1932, enlarging time for plaintiff to prepare præcipe and to docket appeal.

[fol. 710] 4. Order of July 27, 1932, enlarging time for defendants to file præcipe and amendments to statement of evidence lodged by plaintiff.

The first and second documents above designated should be incorporated in the Transcript of Record following the document designated and numbered (4) in præcipe of plaintiff and appellant.

The third and fourth documents above designated should be incorporated in the Transcript of Record following item (17) in præcipe of plaintiff and appellant.

Dated September 13, 1932.

Arthur T. George, Ira H. Rowell, Roderick B. Cassidy, Attorneys for Defendants.

[fols. 711 & 712] Due service and receipt of copy of within Præcipe of Appellee for Transcript of Record is hereby acknowledged this 13 day of September, 1932.

Herman Phleger, Paul Overton, Solicitors for Plaintiff.

[fols. 713 & 714] Clerk's certificate to foregoing Transcript omitted in printing.

[fols. 715 & 716] IN SUPREME COURT OF THE UNITED STATES

ORDER ENLARGING TIME TO PREPARE TRANSCRIPT OF RECORD AND TO DOCKET APPEAL—Filed Aug. 1, 1932

Good cause appearing therefor, it is hereby ordered that the time within which to prepare the transcript of record on appeal and to docket the appeal of the plaintiff in the above-entitled suit in the Supreme Court of the United States be and the same is hereby enlarged to and including the 1st day of October, 1932.

Dated July 27, 1932.

Wm. P. James, District Judge, Southern District of California.

[fol. 717] [File endorsement omitted.]

[fol. 718] IN SUPREME COURT OF THE UNITED STATES

STATEMENT OF POINTS TO BE RELIED UPON AND DESIGNATION OF PARTS OF THE RECORD TO BE PRINTED—Filed Oct. 8, 1932

Comes now the Appellant in the above-entitled cause, and states that the points upon which it intends to rely in this Court, in this case, are as follows:

Point I

The District Court (constituted as prescribed by section 266 of the Judicial Code, and hereinafter referred to as the Court) erred in dismissing Appellant's Bill of Complaint, and in failing to find that the rates therein complained of will deprive Appellant of its rights under the Fourteenth Amendment to the Constitution of the United States, and in refusing to permanently enjoin the enforcement of such rates. (Assignments of Error I to VII, inclusive.)

Point II

The Court erred in treating and considering this case as [fol. 719] a proceeding to review the regularity of the Commission's proceedings and in failing to consider and make an independent determination of the facts involved as disclosed by the evidence before the Court and to render its independent judgment on the law in the light of the facts. (Assignments of Error VIII, X.)

Point III

The Court erred in its decision in respect of the value of Appellant's properties devoted to the public service in that

(a) It rejected all evidence of the actual cost, the cost of reproduction and the going value thereof, and approved the valuation made by the Commission, which used as its sole measure an appraisement of the property as of 1915 plus the book cost of additions and betterments since that date, notwithstanding the uncontradicted evidence showed that the cost to reproduce said property was many millions in excess of the amount so arrived at, and that the actual cost was at least $3,000,000 in excess of said amount, and that the going value was at least $9,228,667, no part of which was included in said amount. (Assignment of Error XIII.)

(b) It held that Appellant may not now assail as inaccurate, unlawful and erroneous, a valuation made by the Commission as of 1915 and that it may not now show the inaccuracy and insufficiency of its book charges for additions and betterments thereafter made. This holding was based on the ground that Appellant had had the benefit of [fol. 720] a reduced net income figure by reason of such deficient book charges to capital account and could not now show the true facts, notwithstanding the uncontradicted evidence showed that the actual cost, the cost of reproduction, and the present value of said properties, are greatly in excess of the amounts so derived from the inaccurate book figures, and that over the entire period of regulation Appellant has failed by more than $3,000,000 to earn the return prescribed as reasonable by the Commission itself on its own unlawful and inadequate rate base, after correction for such bookkeeping errors. (Assignments of Error XIV, XV, XXIII, XXVI, XXVII.)

(c) It refused to include in the value of Appellant's said properties any amount for the going value of Appellant's said properties and business, shown by uncontradicted testimony to exist in at least the sum of $9,228,667 and approved the action of the Commission in expressly refusing to include in the value fixed by it any allowance whatsoever for such going value. (Assignments of Error XXIX to XXXIV, inclusive.)

(d) It refused to consider or give weight to the true cost or reproduction cost or present value of the indirect construction costs (overheads) included in said property upon the ground that such items had been erroneously recorded in Appellant's books of account at less than the true cost or value thereof in an amount shown by the testimony to be at [fol. 721] least $2,318,411. (Assignments of Error XVII, XIX, XXIV, XXV.)

(e) It fixed the amount of accrued and realized depreciation of said properties by consideration of the balance in Appellant's book account for depreciation reserve (which had been accumulated on a sinking fund basis predicated on the erroneous and deficient historical cost of the depreciable property, which contained an understatement of indirect construction costs in the amount of at least $2,318,411) and upon theoretical computations, and refused to consider the evidence based upon examination of such accrued and realized depreciation, which showed that the amount thereof was not in excess of $3,470,326. (Assignments of Error XXXV to XXXVIII, inclusive.)

(f) It held that the used and useful character of Appellant's gas manufacturing plant was questionable (without specifically excluding the same from the rate base) despite the uncontradicted evidence that such plant is used and useful property, that it is in fact used to insure against interruptions of natural gas supply and in fact has from time to time been used and is being used to supply deficiencies of supply resulting from such interruptions, that it will be necessary to supplement the deficient natural gas supply on peak days, and that if such a plant were not now possessed Appellant would be compelled to immediately take steps to build one of substantially the same kind and [fol. 722] character at the present location thereof, and that

if it were not for the existence of said plant it would have been impossible for Appellant to introduce or increase the use of natural gas, or continue to serve the same. (Assignments of Error XXXIX to XLIII, inclusive.)

(g) It failed and refused to give any weight or consideration to evidence of the reproduction cost of Appellant's said properties. (Assignments of Error XVI, XXII.)

(h) It found the value of said property to be not in excess of the amount fixed by the Commission, to wit, $65,000,000, and failed to give due or any weight or consideration to the evidence before the Court, which showed that the value of such properties was not less than $95,000,000. (Assignments of Error XI, XII, XVIII, XX, XXI, LXIV to LXX, inclusive.)

Point IV

The Court erred in its decision in respect of the rate of return to which Appellant is entitled in that

(a) It failed to find that Appellant is entitled, under the Constitution of the United States, to a return equal to that enjoyed by capital invested in other business enterprises attended by like risk and uncertainty in the same general part of the country, and failed to find that the rate of return on such capital in Los Angeles and vicinity is not less than 8% per annum, and failed to find that the rates prescribed by the Commission, complained of herein, will not yield such return. (Assignments of Error XX, XLIV to XLIX, inclusive.)

[fol. 723] (b) It failed to find that Appellant is entitled to such return upon the fair value of its property irrespective of its investment therein or the source of such value, and erroneously approved and followed the rule adopted and used by the Commission, viz., the rates should be fixed to yield upon the historical cost of the property, taking land at current value and calculating depreciation on the sinking fund basis, a return somewhat in excess of the cost of the money invested in the property; the Court erroneously found that the cost of such money was less than the true cost thereof as shown by the evidence, and failed to find that the true cost of such money so invested was in excess

of the rate of return permitted by the rates complained of. (Assignments of Error IX, XXII, XXVIII, L.)

(c) It failed to consider the hazards of Appellant's business and the competition encountered by Appellant in determining the fair rate of return to which Appellant is constitutionally entitled. (Assignments of Error LI, LII.)

Point V

The Court erred in its decision in respect of the probable revenues, expenses and net income under the rates prescribed in that

(a) It erroneously overestimated the gross revenue by adopting the estimate of the Commission predicated on average temperatures of the years 1908 to 1930, inclusive, in the face of uncontradicted evidence that such average [fol. 724] temperature was lower (resulting in a greater estimate of gas sales than would otherwise occur) than the actual temperature conditions experienced in Los Angeles for the average of the 2, 5, 8 and 10 years preceding the hearing and during the year immediately proceding its order, and despite the evidence that by reason of economic conditions the relative use of gas is declining. (Assignments of Error LIII to LVIII, inclusive.)

(b) It erroneously underestimated the operating expenses by adopting the estimate of the Commission in which actual, reasonable and necessary items of operating expense incurred and to be incurred by Appellant were wholly excluded, and insufficient, inadequate and unreasonably low sums were included for the annual allowance for depreciation of Appellant's said property. (Assignments of Error LIX to LXIIII, inclusive.)

And Appellant further states that only the following parts of the record as filed in this Court need be printed by the Clerk for the hearing of the case:

Title of paper	Pages of certified record
Bill of Complaint	4-124
Answer of Defendants	125-135
Answer of Intervener, City of Los Angeles	136-145
Opinion, James, J	157-174

Title of paper	Pages of certified record
Concurring Opinion, Wilbur, J	175-243
Plaintiff's Objections to Proposed Findings of Fact and Conclusions of Law and Request for Findings	244-267
[fols. 725 & 726] Motion to Continue Injunction Pending Appeal	268-270
Affidavit of W. E. Houghton in Support of Motion for a Stay Pending Appeal	271-277
Final Decree	278-279
Order Continuing Injunction Pending Appeal	280-281
Assignment of Errors	282-300
Petition for Appeal	301
Order Allowing Appeal	302-303
Narrative Statement of the Evidence	304-697
Præcipe for Transcript of Record	706-708
This Statement of Points to be Relied Upon and Designation of Parts of the Record to be Printed.	

Please omit all repetitions of title and note in the printed record the omission of the various instruments mentioned in the Præcipes herein certified to the Clerk of the Supreme Court.

Dated October 3, 1932.

Respectfully submitted,

Herman Phleger, Paul Overton, Maurice E. Harrison, James S. Moore, Jr., Counsel for Appellant.

[fols. 727 & 728] ADMISSION OF SERVICE

Service by receipt of copy of Appellant's Statement of Points to be Relied Upon and Designation of Parts of the Record to be Printed is hereby acknowledged the 4th day of October, 1932.

Arthur T. George, Ira H. Rowell, Roderick B. Cassidy, Counsel for Respondents. Erwin P. Weiner, F. von Schrader, Counsel for Intervener.

[fol. 729] [File endorsement omitted.]

[fols. 730 & 731] IN SUPREME COURT OF THE UNITED STATES

DESIGNATION BY APPELLEES OF PARTS OF RECORD TO BE PRINTED—Filed Oct. 17, 1932

Comes now the Appellees in the above-entitled cause and state that the whole record as filed is material and necessary for the consideration of this cause, and request that the whole of said record as filed in this Court be printed by the Clerk for the hearing thereon.

Respectfully submitted.

Arthur T. George, Ira H. Rowell, Roderick B. Cassidy, State Building, San Francisco, Counsel for Appellees.

[fol. 732] Due service and receipt of a copy of the within Designation by Appellees of Parts of Record to be Printed for the hearing of the cause above-entitled is admitted this 6th day of October, 1932.

Herman Phleger, Paul Overton, Maurice E. Harrison, James S. Moore, Jr., Counsel for Appellant.

[fol. 733] Due service and receipt of a copy of the within Designation by Appellees of Parts of Record to be Printed for the hearing of the cause above-entitled is admitted this 10 day of October, 1932.

Erwin P. Weiner, F. von Schrader, Counsel for Intervener, City of Los Angeles.

[fol. 734] [File endorsement omitted.]

Endorsed on cover: File No. 37,109. S. California D. C. U. S. Term No. 412. Los Angeles Gas and Electric Corporation, appellant, vs. Railroad Commission of the State of California, C. L. Seavey, Leon O. Whitsell, et al., etc. Filed September 27, 1932. File No. 37,109.